



# Fire assessment report

Faced glass-fibre and mineral-fibre  
insulation products to  
AS/NZS 1530.3:1999

Sponsor: CSR Bradford

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## Quality management

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|         |                       |                              | <b>Prepared by</b>                                                                | <b>Reviewed by</b>                                                                 | <b>Authorised by</b>                                                                |
|         |                       | <b>Name</b>                  | Yomal Dias                                                                        | Tanmay Bhat                                                                        | Mahmoud Akl                                                                         |
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|         |                       |                              | <b>Prepared by</b>                                                                | <b>Reviewed by</b>                                                                 | <b>Authorised by</b>                                                                |
|         |                       | <b>Name</b>                  | Yomal Dias                                                                        | Omar Saad                                                                          | Omar Saad                                                                           |
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|         |                       | <b>Name</b>                  | Yomal Dias                                                                        | Omar Saad                                                                          | Omar Saad                                                                           |
|         |                       | <b>Signature</b>             |  |  |  |

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Issued to: Greg Isaac  
Company: Fulton Trotter  
Issued By: Liam Thai  
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## Executive summary

This report documents the findings of the assessment undertaken to determine the likely fire hazard properties of various CSR Bradford glass-fibre and mineral-fibre products when used individually or lined with a variety of facings – if tested in accordance with AS/NZS 1530.3:1999.

The analysis in sections 5, 6 and 7 of this report found that the proposed systems together with the described variations are likely to achieve the fire hazard properties shown in Table 1. More specifically, the facing options described in Table 1 may be used in conjunction with any of the insulation products specified in Table 2 or Table 3 to achieve the fire hazard indices specified in Table 1 – if the combined systems were tested in accordance with AS/NZS 1530.3:1999.

**Table 1 Variations to facings and assessment outcome**

| Facing                                      | Ignitability Index<br>(0-20) | Spread of Flame<br>Index (0-10) | Heat Evolved<br>Index (0-10) | Smoke Developed<br>Index (0-10) | Adhesive options                                                                                                                 |
|---------------------------------------------|------------------------------|---------------------------------|------------------------------|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| None                                        | 0                            | 0                               | 0                            | 1                               | None                                                                                                                             |
| Ultraplathon                                | 0                            | 0                               | 0                            | 3                               | The following types of adhesives may be used to glue fix the facing on to the underlying batt/blanket.                           |
| Medium duty foil                            | 0                            | 0                               | 0                            | 0-1                             | <ul style="list-style-type: none"> <li>Bostik Rapidset 4725 when applied at a rate of 25 g/m<sup>2</sup> (dry weight)</li> </ul> |
| Heavy duty foil                             | 0                            | 0                               | 0                            | 0-1                             | <ul style="list-style-type: none"> <li>Bostik HT adhesive when applied at a rate of 25 g/m<sup>2</sup> (dry weight)</li> </ul>   |
| Black Matt Facing (BMF)                     | 18                           | 0                               | 0                            | 3                               | <ul style="list-style-type: none"> <li>Seigel Perma-Lok 800 glue when applied at a rate of 16 g/m<sup>2</sup>.</li> </ul>        |
| Heavy Duty Perforated foil                  | 0                            | 0                               | 0                            | 3                               | Alternatively, the insulation product may be lined with the facing without the use of any adhesive.                              |
| Acoustituff                                 | 0                            | 0                               | 0                            | 1                               |                                                                                                                                  |
| Thermoseal Roof Tile Plus foil              | 0                            | 0                               | 0                            | 1                               |                                                                                                                                  |
| Thermoplast 993                             | 0                            | 0                               | 0                            | 0-1                             |                                                                                                                                  |
| Thermoplast 990                             | 0                            | 0                               | 0                            | 0-1                             |                                                                                                                                  |
| Light Duty foil                             | 0                            | 0                               | 0                            | 0-1                             |                                                                                                                                  |
| Medium Duty foil with one Antiglare surface | 0                            | 0                               | 0                            | 1                               |                                                                                                                                  |
| Heavy Duty foil with one Antiglare surface  | 0                            | 0                               | 0                            | 1                               |                                                                                                                                  |
| Light Duty 'FC' Foil                        | 0                            | 0                               | 0                            | 1                               |                                                                                                                                  |
| Medium Duty Perforated foil                 | 0                            | 0                               | 0                            | 2                               |                                                                                                                                  |
| Thermoplast 993F White                      | 0                            | 0                               | 0                            | 0-1                             |                                                                                                                                  |
| Perforated Thermoplast 993F – White         | 0                            | 0                               | 0                            | 2                               |                                                                                                                                  |

| Facing                                     | Ignitability Index<br>(0-20) | Spread of Flame<br>Index (0-10) | Heat Evolved<br>Index (0-10) | Smoke Developed<br>Index (0-10) | Adhesive options |
|--------------------------------------------|------------------------------|---------------------------------|------------------------------|---------------------------------|------------------|
| Thermoplast 993 Black                      | 0                            | 0                               | 0                            | 3                               |                  |
| Perforated Thermoplast 993 – Black         | 0                            | 0                               | 0                            | 5                               |                  |
| Thermoplast 990F White                     | 0                            | 0                               | 0                            | 0-1                             |                  |
| Perforated Thermoplast 990F – White        | 0                            | 0                               | 0                            | 2                               |                  |
| Heavy Duty Perforated foil with PET facing | 17                           | 0                               | 2                            | 5                               |                  |
| PET Facing                                 | 17                           | 0                               | 2                            | 5                               |                  |

**Table 2 CSR Bradford glass-fibre insulation products used in proposed systems**

| Product                                                                             | Density                     | Thermosetting resin binder content |
|-------------------------------------------------------------------------------------|-----------------------------|------------------------------------|
| Various glass-fibre insulation products as identified in Appendix B under Table 73. | Up to 130 kg/m <sup>3</sup> | Up to 13% by mass                  |

**Table 3 CSR Bradford mineral-fibre insulation products used in proposed systems**

| Product                                                                               | Density (kg/m <sup>3</sup> ) | Thermosetting resin binder content |
|---------------------------------------------------------------------------------------|------------------------------|------------------------------------|
| Various mineral-fibre insulation products as identified in Appendix B under Table 74. | Up to 110 kg/m <sup>3</sup>  | Up to 3.4% by mass                 |

The variations and outcome of this assessment are subject to the limitations and requirements described in sections 2, 3 and 8 of this report. The results of this report are valid till 31/03/2026.

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## 1. Introduction

This report documents the findings of the assessment undertaken to determine the likely fire hazard properties of CSR Bradford glass-fibre and mineral-fibre insulation products when used individually or lined with a variety of facings – if tested in accordance with AS/NZS 1530.3:1999<sup>1</sup>.

This assessment was carried out at the request of CSR Bradford. The sponsor details are included in Table 4.

**Table 4 Sponsor details**

| Sponsor                                               | Address                                                         |
|-------------------------------------------------------|-----------------------------------------------------------------|
| CSR Building Products Limited trading as CSR Bradford | Trinity 3, 39 Delhi Road<br>North Ryde<br>2113 NSW<br>Australia |

## 2. Framework for the assessment

### 2.1 Assessment approach

An assessment is an opinion about the likely performance of a component or element of structure if it was subject to a fire test.

No specific framework, methodology, standard or guidance documents exists in Australia for doing these assessments. We have therefore followed the 'Guide to undertaking technical assessments of the fire performance of construction products based on fire test evidence' prepared by the Passive Fire Protection Forum (PFPF) in the UK in 2019<sup>2</sup>.

This guide provides a framework for undertaking assessments in the absence of specific fire test results. Some areas where assessments may be offered are:

- Where a modification is made to a construction which has already been tested
- The interpolation or extrapolation of results of a series of fire resistance tests, or utilisation of a series of fire test results to evaluate a range of variables in a construction design or a product
- Where, for various reasons – eg size or configuration – it is not possible to subject a construction or a product to a fire test.

Assessments will vary from relatively simple judgements on small changes to a product or construction through to detailed and often complex engineering assessments of large or sophisticated constructions.

This assessment uses established empirical methods and our experience of fire testing similar products to extend the scope of application by determining the limits for the design based on the tested constructions and performances obtained. The assessment is an evaluation of the potential fire hazard properties if the elements were to be tested in accordance with AS/NZS 1530.3:1999.

This assessment has been written using appropriate test evidence generated at accredited laboratories to the relevant test standard. The supporting test evidence has been deemed appropriate to support the manufacturer's stated design.

<sup>1</sup> Standards Australia and Standards New Zealand, 1999, Methods for fire tests on building materials, components and structures – Part 3: Simultaneous determination of ignitability, flame propagation, heat release and smoke release (Reconfirmed in 2016), AS/NZS 1530.3:1999 (R2016), Standards Australia, NSW.

<sup>2</sup> Passive Fire Protection Forum (PFPF), 2019, Guide to undertaking technical assessments of the fire performance of construction products based on fire test evidence, Passive Fire Protection Forum (PFPF), UK.

## 2.2 Compliance with the National Construction Code

This assessment report has been prepared to meet the evidence of suitability requirements of the National Construction Code Volumes One and Two – Building Code of Australia (NCC) 2019 including Amendment 1<sup>3</sup> under A5.2 (1) (d).

This assessment has been written in accordance with the general principles outlined in EN 15725:2010<sup>4</sup> for extended application reports on the fire performance of construction products and building elements. It also references test evidence for meeting a performance requirement or deemed to satisfy (DTS) provisions of the NCC under A5.5 for reaction to fire as applicable to the assessed systems.

This assessment report may also be used to demonstrate compliance with the requirements for evidence of suitability under NCC 2016 including Amendment 1<sup>5</sup>.

## 2.3 Declaration

The 'Guide to undertaking technical assessments of the fire performance of construction products based on fire test evidence' prepared by the PFPF in the UK requires a declaration from the client. By accepting our variation proposal on 2 November 2020, CSR Bradford confirmed that:

- To their knowledge the component or element of structure, which is the subject of this assessment, has not been subjected to a fire test to the standard against which this assessment is being made.
- They agree to withdraw this assessment from circulation if the component or element of structure is the subject of a fire test by a test authority in accordance with the standard against which this assessment is being made and the results are not in agreement with this assessment.
- They are not aware of any information that could adversely affect the conclusions of this assessment and – if they subsequently become aware of any such information – they agree to ask the assessing authority to withdraw the assessment.

## 3. Limitations of this assessment

- The scope of this report is limited to an assessment of the variations to the tested systems described in section 4.3.
- This report details the methods of construction, test conditions and assessed results that are expected if the systems were tested in accordance with AS/NZS 1530.3:1999.
- This report is only valid for the assessed products and must not be used for any other purpose. If there are changes to the system, a reassessment will need to be done by an Accredited Testing Laboratory (ATL).
- The documentation that forms the basis for this report is listed in Appendix A.
- This report has been prepared based on information provided by others. Warringtonfire has not verified the accuracy and/or completeness of that information and will not be responsible for any errors or omissions that may be incorporated into this report as a result.
- This assessment is based on the proposed systems being constructed under comprehensive quality control practices and following appropriate industry regulations and Australian Standards on quality of materials, design of structures, guidance on workmanship and the expert handling, placing and finishing of the products on site. These variables are beyond the control and consideration of this report.

<sup>3</sup> National Construction Code Volume One and Two – Building Code of Australia 2019 including Amendment 1, Australian Building Codes Board, Australia.

<sup>4</sup> European Committee for Standardization, 2010, Extended application reports on the fire performance of construction products and building elements, EN 15725:2010, European Committee for Standardization, Brussels, Belgium.

<sup>5</sup> National Construction Code Volume One and Two – Building Code of Australia 2016 Amendment 1, Australian Building Codes Board, Australia.

## 4. Description of the specimen and variations

### 4.1 System description

The proposed systems mainly consist of two components, namely the substrate and the facing. The substrate can be either a glass-fibre or mineral-fibre insulation product as specified earlier in Table 2 and Table 3. These insulation products may be lined with any of the facing options specified in Table 1. Optionally, the thermal and acoustic insulation products may be left without any additional facing. The specified types of adhesives described in Table 1 may be used to glue fix the facing to the underlying insulation product. Alternatively, the no adhesive option may be adopted. The no adhesive option is typically used in ceilings where a steel wire mesh is used to retain the facing and the blanket in place.

### 4.2 Referenced test data

The assessment of the variations to the tested systems and the determination of the likely performance is based on the results of the fire tests documented in the reports summarised in Table 5. Further details of the tested system are included in Appendix A.

**Table 5 Referenced test data**

| Report number | Test date         | Testing authority | Test standard               | Test sponsor                  |
|---------------|-------------------|-------------------|-----------------------------|-------------------------------|
| FNE9589       | 13 November 2009  | CSIRO             | AS/NZS 1530.3:1999          | CSR Building Products Limited |
| FNE9690       | 1 March 2010      |                   |                             |                               |
| FNE9785       | 26 May 2010       |                   |                             |                               |
| FNE9787       | 9 June 2010       |                   |                             |                               |
| FNE9788       | 9 June 2010       |                   |                             |                               |
| FNE9790       | 10 June 2010      |                   |                             |                               |
| FNE10360      | 9 December 2011   |                   |                             |                               |
| FNE10361      | 9 December 2011   |                   |                             |                               |
| FNE10364      | 20 December 2011  |                   |                             |                               |
| FNE11429      | 6 July 2015       |                   |                             |                               |
| FNE11527      | 18 March 2016     |                   |                             |                               |
| FNE11655      | 8 March 2016      |                   |                             |                               |
| FNE12136      | 26 March 2018     |                   |                             |                               |
| FNE12137      | 26 March 2018     |                   |                             |                               |
| FNE12465A     | 10 December 2019  |                   |                             |                               |
| FNE12504      | 3 December 2019   |                   |                             |                               |
| FNE12565      | 4 March 2020      |                   |                             |                               |
| 18-000736     | 20 February 2018  | AWTA              |                             |                               |
| 20-006531     | 8 January 2021    |                   |                             |                               |
| 21-000496     | 12 February 2021  |                   |                             |                               |
| 7-574195-CN   | 10 August 2010    |                   |                             |                               |
| 7-574196-CN   | 11 August 2010    |                   |                             |                               |
| FNC0354       | 23 September 2005 | CSIRO             | AS 1530.1:1994 <sup>6</sup> |                               |
| FNC9594       | 10 December 2009  |                   |                             |                               |

<sup>6</sup> Standards Australia, 1994, Methods for fire tests on building materials, components and structures – Part 1: Combustibility test for materials (Reconfirmed in 2016), AS 1530.1:1994 (R2016), Standards Australia, NSW.

| Report number | Test date           | Testing authority             | Test standard | Test sponsor |
|---------------|---------------------|-------------------------------|---------------|--------------|
| FNC9595       | 10 December 2009    |                               |               |              |
| FNC9596       | 11 December 2009    |                               |               |              |
| FNC9693       | 5 March 2010        |                               |               |              |
| FNC9694       | 6 March 2010        |                               |               |              |
| FNC9695A      | 6 March 2010        |                               |               |              |
| FNC9749       | 26 April 2010       |                               |               |              |
| FNC9770       | 4 May 2010          |                               |               |              |
| FNC9771       | 4 May 2010          |                               |               |              |
| FNC10324B     | 9 November 2011     |                               |               |              |
| NR-15003      | 13-14 May 2015      | CSR Building Products Limited |               |              |
| NR-15004      | 14-15 May 2015      |                               |               |              |
| NR-15005      | 3-9 July 2015       |                               |               |              |
| NR-15006      | 7-9 July 2015       |                               |               |              |
| NR-15007      | 8-10 September 2015 |                               |               |              |

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### 4.3 Variations to the tested systems

Identical systems have not been subject to the reaction to fire test specified in AS/NZS 1530.3:1999. We have therefore assessed the systems using baseline test information for similar products and systems. The variations to the tested products – together with the referenced reaction to fire tests – are described in Table 6.

**Table 6 Variations to tested systems**

| Item                                           | Reference test                                                                                                                                                                                                                                                                                                                                            | Description                                                          | Variations                                                                                                     |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| CSR Bradford glass-fibre insulation products   | AS 1530.1:1994 tests:<br><ul style="list-style-type: none"> <li>FNC9594</li> <li>FNC9695A</li> <li>FNC9749</li> <li>FNC0354</li> <li>FNC10324B</li> <li>NR-15006</li> <li>FNC9694</li> </ul> AS/NZS 1530.3:1999 tests:<br><ul style="list-style-type: none"> <li>FNE9589</li> </ul>                                                                       | The range of tested insulation products are as described in Table 2. | The density of the glass-fibre insulation products may vary up to a maximum limit of 130 kg/m <sup>3</sup> .   |
| CSR Bradford mineral-fibre insulation products | AS 1530.1:1994 tests:<br><ul style="list-style-type: none"> <li>FNC9595</li> <li>FNC9596</li> <li>FNC9693</li> <li>FNC9770</li> <li>FNC9771</li> <li>NR-15003</li> <li>NR-15004</li> <li>NR-15005</li> <li>NR-15007</li> </ul> AS/NZS 1530.3:1999 tests:<br><ul style="list-style-type: none"> <li>FNE9690</li> <li>FNE11527</li> <li>FNE11655</li> </ul> | The range of tested insulation products are as described in Table 3. | The density of the mineral-fibre insulation products may vary up to a maximum limit of 110 kg/m <sup>3</sup> . |

| Item                                      | Reference test                                                                                                                                                                                                                                                                                                                                                  | Description                                                                                                                                                                                                                                | Variations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Facings                                   | <ul style="list-style-type: none"> <li>FNE9785</li> <li>FNE9787</li> <li>FNE9788</li> <li>FNE9790</li> <li>FNE12136</li> <li>FNE10360</li> <li>FNE12137</li> <li>FNE10361</li> <li>FNE10364</li> <li>FNE11429</li> <li>7-574195-CN</li> <li>7-574196-CN</li> <li>FNE12465A</li> <li>FNE12504</li> <li>FNE12565</li> <li>20-006531</li> <li>21-000496</li> </ul> | <p>The systems consisted of various glass-fibre or mineral-fibre based substrates faced with various facing options – tested to AS/NZS 1530.3:1999. A summary of the facings tested, and the results obtained is presented in Table 7.</p> | <p>Facing on the insulation product may vary from those of the tested specimens to any one of the following.</p> <ul style="list-style-type: none"> <li>• Ultraphon</li> <li>• Medium Duty (MD) foil</li> <li>• Heavy Duty (HD) foil</li> <li>• Black Matt Face (BMF)</li> <li>• Heavy Duty Perforated (HDP) foil</li> <li>• Acoustituff</li> <li>• Thermoseal Roof Tile Plus foil</li> <li>• Thermoplast Decorative facing 993</li> <li>• Thermoplast Decorative facing 990</li> <li>• Light Duty (LD) foil</li> <li>• MD foil with one Antiglare surface</li> <li>• HD foil with one Antiglare surface</li> <li>• LD FC foil</li> <li>• Medium Duty Perforated (MDP) foil</li> <li>• Thermoplast 993F – White</li> <li>• Perforated Thermoplast 993F – White</li> <li>• Thermoplast 993 – Black</li> <li>• Perforated Thermoplast 993 – Black</li> <li>• Thermoplast 990F – White</li> <li>• Perforated Thermoplast 990F – White</li> <li>• HDP foil with PET facing</li> <li>• PET facing.</li> </ul> <p>Alternatively, the facing may be omitted.</p> |
| Adhesion of facings to insulation product | <ul style="list-style-type: none"> <li>FNE12136</li> <li>FNE12137</li> </ul>                                                                                                                                                                                                                                                                                    | Bostik HT adhesive applied at a rate of 25 g/m <sup>2</sup>                                                                                                                                                                                | <p>The adhesive options may be varied as given below.</p> <ul style="list-style-type: none"> <li>• Bostik Rapidset 4725 at a rate of 25 g/m<sup>2</sup></li> <li>• Bostic HT applied at a rate of 25 g/m<sup>2</sup></li> <li>• Siegel Perma-Lok 800 applied at a rate of 16 g/m<sup>2</sup>.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                           | <ul style="list-style-type: none"> <li>FNE10360</li> <li>FNE10361</li> </ul>                                                                                                                                                                                                                                                                                    | Bostik Rapidset 4725 applied at a rate of 20 g/m <sup>2</sup> to 30 g/m <sup>2</sup>                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| Item | Reference test | Description                                                            | Variations                                                                                |
|------|----------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
|      | • FNE10364     |                                                                        | Alternatively, the facings may be laid over the insulation products without any adhesive. |
|      | FNE11429       | Bostik Rapidset 4725 adhesive applied at a rate of 35 g/m <sup>2</sup> |                                                                                           |
|      | FNE12465A      | Bostik HT applied at a rate of 16 g/m <sup>2</sup>                     |                                                                                           |
|      | FNE12504       | Bostik Rapidset 4725 applied at a rate of 18 g/m <sup>2</sup>          |                                                                                           |
|      | FNE12565       | Siegel Perma-Lok 800 applied at a rate of 16 g/m <sup>2</sup>          |                                                                                           |
|      | 21-000496      | Siegel Perma-Lok 800                                                   |                                                                                           |

**Table 7 Summary of AS/NZS 1530.3:1999 test results**

| Facing                         | Adhesive             | Referenced test | Insulation product                | Ignitability index (0-20) | Spread of flame index (0-10) | Heat evolved index (0-10) | Smoke developed index (0-10) |
|--------------------------------|----------------------|-----------------|-----------------------------------|---------------------------|------------------------------|---------------------------|------------------------------|
| Ultrapphon                     | Bostik Rapidset 4725 | FNE9785         | 50 mm Bradford Glasswool Ultratel | 0                         | 0                            | 0                         | 3                            |
| MD foil                        | Bostik Rapidset 4725 | FNE9787         | 50 mm Bradford Glasswool Ultratel | 0                         | 0                            | 0                         | 0-1                          |
| HD foil                        | Bostik Rapidset 4725 | FNE9788         | 50 mm Bradford Glasswool Ultratel | 0                         | 0                            | 0                         | 0-1                          |
| BMF                            | Bostik Rapidset 4725 | FNE9790         | 50 mm Bradford Glasswool Ultratel | 18                        | 0                            | 0                         | 3                            |
| BMF                            | Bostik HT adhesive   | FNE12136        | 50 mm Bradford Glasswool Ultratel | 0                         | 0                            | 0                         | 2                            |
| HDP foil                       | Bostik Rapidset 4725 | FNE10360        | 50 mm Bradford Supertel           | 0                         | 0                            | 0                         | 3                            |
| HDP foil                       | Bostik HT adhesive   | FNE12137        | 50 mm Bradford Supertel           | 0                         | 0                            | 0                         | 2                            |
| Acoustituff foil               | Bostik Rapidset 4725 | FNE10361        | 50 mm Bradford Supertel           | 0                         | 0                            | 0                         | 1                            |
| Acoustituff foil               | Bostik Rapidset 4725 | FNE10364        | 50 mm Bradford Glasswool Ultratel | 0                         | 0                            | 0                         | 1                            |
| Thermoseal Roof Tile Plus foil | Bostik Rapidset 4725 | FNE11429        | 50 mm Bradford Glasswool Ultratel | 0                         | 0                            | 0                         | 1                            |

| Facing                              | Adhesive             | Referenced test | Insulation product         | Ignitability index (0-20) | Spread of flame index (0-10) | Heat evolved index (0-10) | Smoke developed index (0-10) |
|-------------------------------------|----------------------|-----------------|----------------------------|---------------------------|------------------------------|---------------------------|------------------------------|
| Thermoplast 993 – white (antiglare) | Bostik Rapidset 4725 | 7-574195-CN     | 60 mm glass-fibre batt     | 0                         | 0                            | 0                         | 0-1                          |
| Thermoplast 990 – white             | Bostik Rapidset 4725 | 7-574196-CN     | 60 mm glass-fibre batt     | 0                         | 0                            | 0                         | 0-1                          |
| HDP foil                            | Bostik HT            | FNE12465A       | 50 mm Bradford Supertel    | 0                         | 0                            | 0                         | 3                            |
| LD foil                             | Bostik Rapidset 4725 | FNE12504        | 60 mm glass-fibre blanket  | 0                         | 0                            | 0                         | 1                            |
| HDP foil                            | Seigel Perma-Lok 800 | FNE12565        | 50 mm Bradford Supertel    | 0                         | 0                            | 0                         | 2                            |
| HDP foil and PET                    | Seigel Perma-Lok 800 | 20-006531       | 50 mm Bradford Supertel    | 17                        | 0                            | 2                         | 5                            |
| Thermoplast 993 – black             | No adhesive was used | 21-000496       | 110 mm glass-fibre blanket | 0                         | 0                            | 0                         | 3                            |

#### 4.4 Purpose of the test

AS/NZS 1530.3:1999 sets out the test method for the assessment of building materials and components according to their tendency to ignite, propagate flame and heat and smoke release.

AS 1530.1:1994 specifies a test method for the determination of the combustibility of a building material.

## 5. Assessment 1 – Glass-fibre and mineral-fibre insulation products to AS/NZS 1530.3:1999

### 5.1 Description of variation

The proposed systems consist of either glass-fibre or mineral-fibre insulation products that act as substrates. A range of such substrates have been tested to AS 1530.1:1994 and AS/NZS 1530.3:1999. The proposed substrates are described in Table 8 and Table 9.

**Table 8 CSR Bradford glass-fibre based batts and blankets used in proposed systems**

| Product                                                                             | Density                     | Thermosetting resin binder content |
|-------------------------------------------------------------------------------------|-----------------------------|------------------------------------|
| Various glass-fibre insulation products as identified in Appendix B under Table 73. | Up to 130 kg/m <sup>3</sup> | Up to 13% by mass                  |

**Table 9 CSR Bradford mineral-fibre based batts and blankets used in proposed systems**

| Product                                                                               | Density (kg/m <sup>3</sup> ) | Thermosetting resin binder content |
|---------------------------------------------------------------------------------------|------------------------------|------------------------------------|
| Various mineral-fibre insulation products as identified in Appendix B under Table 74. | Up to 110 kg/m <sup>3</sup>  | Up to 3.4% by mass                 |

### 5.2 Methodology

The method of assessment used is summarised in Table 10.

**Table 10 Method of assessment**

| Assessment method   |                                          |
|---------------------|------------------------------------------|
| Level of complexity | Intermediate assessment                  |
| Type of assessment  | Qualitative– interpolation / Comparative |

### 5.3 Assessment

#### 5.3.1 Assessment rationale

The tendency to ignite, tendency to propagate flame, heat release at elevated temperatures and the tendency to release smoke of the proposed range of glass-fibre and mineral-fibre insulation products are to be determined in accordance with the test method described in AS/NZS 1530.3:1999.

AS 1530.1:1994 presents a test method to determine the combustibility of a building material. The test apparatus consists of a tube furnace within which the specimen is placed using a specimen holder. The test specimen is made to the size of a 45 mm diameter, 50 mm deep cylinder. Five specimens of the material are tested. Thermocouples are provided for measuring the furnace temperature, the temperature at the centre of the specimen and the temperature on the surface of the specimen. The specimen is exposed to a stable temperature of 750°C and the criteria for combustibility are specified as follows.

- The mean duration of sustained flaming exceeding 5 seconds must not exceed zero.
- The mean furnace thermocouple temperature rise must not exceed 50°C.
- The specimen surface thermocouple temperature rise must not exceed 50°C.

A material for which the set of test specimens collectively achieve the above criteria is NOT deemed COMBUSTIBLE.

AS 1530.1:1994 test method provides an indication on the potential for thermal decomposition of the tested material. Thermal decomposition of the material and the resultant formation of volatile gasses lead to flaming, temperature rise, and mass loss in the test specimen.

Conversely, a material which yields superior outcomes with respect to above parameters, and conforms to the performance criteria specified in this standard, has much less potential to ignite.

Naturally, such materials also inherit superior fire hazard properties such as flame propagation, heat release upon ignition and smoke release – as specified in AS/NZS 1530.3:1999. Thus, AS 1530.1:1994 test data can be used to assess such fire hazard properties of materials that vary to a minor degree from those tested to AS/NZS 1530.3:1999. It is noteworthy that AS 1530.1:1994 test method is more onerous than AS/NZS 1530.3:1999.

The performance of a material tested to AS 1530.1:1994 is influenced by its density and the binder content. The test specimen size is fixed irrespective of the size of the insulation product used on-site. Thus, the thickness of the product does not influence of the combustibility of the material when tested to AS 1530.1:1994.

### 5.3.2 Glass-fibre insulation products

#### Combustibility of glass-fibre insulation products

A summary of the range of glass-fibre insulation products tested to AS 1530.1:1994 is presented in Table 11. Each of these products were classified as NOT deemed COMBUSTIBLE in the test reports. A detailed summary of each test report is presented in Appendix A.

**Table 11 CSR Bradford glass-fibre insulation products tested to AS 1530.1:1994**

| Test report | Product                                                            | Nominal product density                           | Nominal product thickness (mm) | Mean mass loss (%) |
|-------------|--------------------------------------------------------------------|---------------------------------------------------|--------------------------------|--------------------|
| FNC9594     | Bradford Gold Insulation R2.0 Ceiling Batts                        | 0.728 kg/m <sup>2</sup> (6.33 kg/m <sup>3</sup> ) | 115                            | 9.4                |
| FNC9694     | Bradford Gold Insulation R1.5 Water-repellent Wall and Floor Batts | 0.657 kg/m <sup>2</sup> (8.76 kg/m <sup>3</sup> ) | 75                             | 19.5               |
| FNC9695A    | Bradford Gold Insulation R5.0 High Performance Ceiling Batts       | 2.8 kg/m <sup>2</sup> (13.33 kg/m <sup>3</sup> )  | 210                            | 9.4                |
| FNC9749     | Bradford Glasswool Partition Batts                                 | 14 kg/m <sup>3</sup>                              | 50                             | 10.17              |
| FNC0354     | Bradford Glasswool Partition Batts                                 | 11 kg/m <sup>3</sup>                              | 50                             | 9.2                |
| FNC10324B   | CSR Bradford R3.6 Building Blanket                                 | 16.85 kg/m <sup>3</sup>                           | 145                            | 8.06               |
| NR-15006    | CSR Bradford New Generation SoundScreen R2.0 Wall Floor Batts      | 26.8 kg/m <sup>3</sup>                            | 70                             | 5.24               |

The density of the tested specimens ranged from 6.33 kg/m<sup>3</sup> to 26.8 kg/m<sup>3</sup> with each specimen classified as NOT deemed COMBUSTIBLE. This proves that CSR Bradford glass-fibre based batts and blankets with densities up to 26.8 kg/m<sup>3</sup> possess very low amounts of combustibles.

CSR Bradford has confirmed that the thermosetting resin binder contents of all other glass-fibre based batts and blankets do not exceed 13%. This is confirmed by most of the test results summarised in Table 11 – where the mean mass loss is below this value. FNC9694 recorded a higher mean mass loss but still was NOT deemed COMBUSTIBLE.

#### Glass-fibre insulation products to AS/NZS 1530.3:1999

FNE9589 describes an AS/NZS 1530.3:1999 test conducted on Bradford Glasswool Quietel which is described as a glass-fibre insulation batt bonded with thermosetting resin. It had a nominal density of 130 kg/m<sup>3</sup> and came in nominally 25 mm thick batts. It consisted of 13% thermosetting resin binder content by mass – as confirmed by CSR Bradford. When tested, it achieved the fire hazard indices 0, 0, 0, 0-1 for the fire hazard properties introduced in section 5.3.1 – in the same order – as classified by AS/NZS 1530.3:1999.

As described earlier, CSR Bradford has confirmed that the thermosetting resin binder contents of all other glass-fibre based batts and blankets do not exceed 13%. The binder is the primary combustible component within these insulation products. The significance of this is that all other batts and blankets contain either similar or lower amounts of combustibles within them.

In an AS/NZS 1530.3:1999 test, the surface of the test sample is exposed primarily to radiation. A pilot flame is held at a short distance of 15 mm from the surface of the specimen. Thus, the outcome of the test is primarily dependent on the behaviour of the material on the exposed face of the test sample. The thickness of the test specimen does not have an appreciable effect on the test results.

## Outcome

When evaluated in conjunction with the AS 1530.1:1994 results discussed earlier, the above discussion shows that the glass-fibre insulation products with densities not exceeding 130 kg/m<sup>3</sup> are likely to achieve the fire hazard indices 0, 0, 0, 0-1 if tested to AS/NZS 1530.3:1999.

## 5.3.3 Mineral-fibre insulation products

### Combustibility of mineral-fibre insulation products

A summary of the range of mineral-fibre insulation products tested to AS 1530.1:1994 is presented in Table 12. Each of these products were classified as NOT deemed COMBUSTIBLE in the test reports. A detailed summary of each test report is presented in Appendix A.

**Table 12 CSR Bradford mineral-fibre insulation products tested to AS 1530.1:1994**

| Test report | Product                                       | Nominal product density (kg/m <sup>3</sup> ) | Nominal product thickness (mm) |
|-------------|-----------------------------------------------|----------------------------------------------|--------------------------------|
| FNC9595     | Bradford Rockwool Fibertex 450                | 80                                           | 50                             |
| FNC9596     | Bradford Rockwool Fibertex HD                 | 197                                          | 50                             |
| FNC9693     | Bradford Soundscreen Plus 3.0                 | 30                                           | 120                            |
| FNC9770     | Rockwool Granulated Cavity Wall               | 20                                           | 50                             |
| FNC9771     | Rockwool Building Grade Insulation            | 100                                          | 50                             |
| NR-15003    | CSR Fireseal Party Wall Roof Sealer           | 50                                           | 50                             |
| NR-15004    | CSR Fireseal Party Wall Batts                 | 70                                           | 100                            |
| NR-15005    | CSR Rockwool Fibertex 820 Board               | 110                                          | 25                             |
| NR-15007    | Bradford Rockwool Granulated Industrial (502) | 200                                          | Not applicable                 |

The density of the tested insulation products ranged from 20 kg/m<sup>3</sup> to 200 kg/m<sup>3</sup>. NR-15007 incorporated Bradford mineral-fibre granular material packed to achieve a density of 200 kg/m<sup>3</sup>. Each of the tested specimens were classified as NOT deemed COMBUSTIBLE. This proves that CSR Bradford mineral-fibre based batts and blankets with densities up to 200 kg/m<sup>3</sup> possess very low amounts of combustibles.

### Mineral-fibre based batts and blankets to AS/NZS 1530.3:1999

FNE9690, FNE11527 and FNE11655 describe three AS/NZS 1530.3:1999 tests conducted on various mineral-fibre based batts or blankets. Details of the tested materials are given in Table 13. Each of these materials achieved the fire hazard indices 0, 0, 0, 0-1 or 0, 0, 0, 1 – as classified by AS/NZS 1530.3:1999.

**Table 13 AS/NZS 1530.3:1999 test results for mineral-fibre insulation products**

| Referenced test | Insulation product                              | Nominal product density (kg/m <sup>3</sup> ) | Nominal product thickness (mm) |
|-----------------|-------------------------------------------------|----------------------------------------------|--------------------------------|
| FNE9690         | Rockwool Building Grade Granulated (loose fill) | 20 and 100                                   | 100                            |
| FNE11527        | CSR Bradford Rockwool Granulated (loose fill)   | 100                                          | 100                            |

| Referenced test | Insulation product                   | Nominal product density (kg/m <sup>3</sup> ) | Nominal product thickness (mm) |
|-----------------|--------------------------------------|----------------------------------------------|--------------------------------|
| FNE11655        | CSR Bradford Rockwool Fibertex – 820 | 110                                          | 100                            |

CSR Bradford has confirmed that the thermosetting resin binder contents of all mineral-fibre insulation products with densities up to 110 kg/m<sup>3</sup> do not exceed 3.4% by mass. The binder within the batt/blanket is the primary combustible component within these insulation products. The significance of this is that all other batts and blankets contain either similar or lower amounts of combustibles within them. As discussed earlier, the thickness of the product in use does not have an appreciable effect on the test results.

### Outcome

When evaluated in conjunction with the AS 1530.1:1994 results discussed earlier, the above discussion shows that the glass-fibre based insulation products with a density not exceeding 130 kg/m<sup>3</sup> are likely to achieve the fire hazard indices 0, 0, 0, 0-1 or 0, 0, 0, 1 – if tested to AS/NZS 1530.3:1999.

## 5.4 Conclusion

Based on the discussions presented in sections 5.3.1 to 5.3.3, this assessment demonstrates that the following insulation products are likely to achieve the fire hazard indices 0, 0, 0, 0-1 or 0, 0, 0, 1 – if tested in accordance with AS/NZS 1530.3:1999.

- CSR Bradford glass-fibre based batts and blankets with densities up to 130 kg/m<sup>3</sup>
- CSR Bradford mineral-fibre based batts and blankets with densities up to 110 kg/m<sup>3</sup>.

## 6. Assessment 2 – Various facing options to AS/NZS 1530.3:1999

### 6.1 Description of variation

A series of AS/NZS 1530.3:1999 tests were conducted on various facings with and without glass-fibre substrates. A summary of the tested systems is shown in Table 7. Based on the test results, a range of facing options – coupled with the glass-fibre and mineral-fibre insulation products previously assessed under section 5 – are proposed to be assessed to AS/NZS 1530.3:1999. Alternatively, no facing may be used.

### 6.2 Methodology

The method of assessment used is summarised in Table 14.

**Table 14 Method of assessment**

| Assessment method   |                                           |
|---------------------|-------------------------------------------|
| Level of complexity | Intermediate assessment                   |
| Type of assessment  | Qualitative – interpolation / Comparative |

### 6.3 Assessment

#### 6.3.1 Rationale for the assessment

The combustibility and fire hazard properties of the proposed glass-fibre and mineral-fibre insulation products were previously assessed under section 5. All of these substrates are classified as NOT deemed COMBUSTIBLE in accordance with AS 1530.1:1994. Each of the substrates also achieved the fire hazard indices 0, 0, 0, 0-1 or 0, 0, 0, 0-1 in accordance with AS/NZS 1530.3:1999. Hence, the proposed substrates achieve the lowest fire hazard properties achievable i.e. they have very low reaction to fire response.

Collectively, these outcomes prove that the contribution of such substrates to the fire hazard properties of the proposed systems – which also consist of facings – is likely to be very small. The overall fire hazard properties of the proposed glass-fibre and mineral-fibre insulation products lined with various facings are likely to be primarily dependent of the same properties of the facings themselves. Hence, the fire hazard properties of the proposed systems can be determined based on the same results of the facings tested to AS/NZS 1530.3:1999.

Additionally, variations among different facings can be assessed based on the amount of combustibles within such facings. The results obtained via testing of facings with higher amounts of combustibles are used to assess the fire hazard properties of facings with similar composition, but with lower amounts of combustible content.

#### 6.3.2 No facing option

If no facing is used in conjunction with the glass-fibre or mineral-fibre substrate, then the fire hazard indices of the bare insulation products are applicable. As discussed in section 5, the fire hazard indices of the range of substrates are assessed to be 0, 0, 0, 0-1 or 0, 0, 0, 1 – depending on the product. Conservatively 0, 0, 0, 1 classification is assigned as a general solution.

#### 6.3.3 Assessment of facings directly tested to AS/NZS 1530.3:1999

The various facings specified in Table 7 were all subjected to direct AS/NZS 1530.3:1999 testing. These tested facings with proposed substrates are directly assessed to achieve the same fire hazard properties achieved from the tests based on the rationale discussed earlier in section 6.3.1. The implications of the adhesive have been discussed separately under section 7.

**Table 15** Facings directly tested to AS/NZS 1530.3:1999

| Facing                              | Ignitability index (0-20) | Spread of flame index (0-10) | Heat evolved index (0-10) | Smoke developed index (0-10) |
|-------------------------------------|---------------------------|------------------------------|---------------------------|------------------------------|
| Unfaced                             | 0                         | 0                            | 0                         | 1                            |
| Ultraplathon                        | 0                         | 0                            | 0                         | 3                            |
| MD aluminium foil                   | 0                         | 0                            | 0                         | 0-1                          |
| HD aluminium foil                   | 0                         | 0                            | 0                         | 0-1                          |
| BMF                                 | 18                        | 0                            | 0                         | 3                            |
| BMF                                 | 0                         | 0                            | 0                         | 2                            |
| HDP foil                            | 0                         | 0                            | 0                         | 3                            |
| Acoustituff aluminium foil          | 0                         | 0                            | 0                         | 1                            |
| Thermoseal Roof Tile Plus foil      | 0                         | 0                            | 0                         | 1                            |
| Thermoplast 993 – White (antiglare) | 0                         | 0                            | 0                         | 0-1                          |
| Thermoplast 990 – White             | 0                         | 0                            | 0                         | 0-1                          |
| LD foil                             | 0                         | 0                            | 0                         | 1                            |
| Thermoplast 993 Black               | 0                         | 0                            | 0                         | 3                            |
| HDP foil with PET facing            | 17                        | 0                            | 2                         | 5                            |

#### 6.3.4 Assessment of facings with minor variations to those directly tested to AS/NZS 1530.3:1999

The additional facings that were not directed tested to AS/NZS 1530.3:1999 – but only vary to a minor degree from the tested facings such that an assessment can be conducted – are limited to those specified in Table 16. The reference tests and the assessment rationale are also provided in the same table.

**Table 16 Additional facings assessed based on other facings directly tested to AS/NZS 1530.3:1999**

| Proposed Facing Material           | Similar tested product                                                                                                      | Differences between tested and proposed facings                                                                                                                                        | Test report | Fire hazard indices from tests | Rationale                                                                                                                                                                                                                                                                             |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MD foil with one Antiglare surface | MD foil-faced Bradford Glasswool Ultratel                                                                                   | One outer foil layer on MD foil is replaced with an Antiglare foil layer to make MD foil with one Antiglare surface.                                                                   | FNE9787     | 0, 0, 0, 0-1                   | MD foil faced glasswool board has been tested and achieved the fire hazard indices 0, 0, 0, 0-1.                                                                                                                                                                                      |
|                                    | HD Sarking 753 – Reflective sarking wrapped with anti-glare                                                                 | The Antiglare layer on HD foil laminate has been tested.                                                                                                                               | 18-000736   | 0, 0, 0, 1                     | HD sarking with anti-glare surface (no glasswool board backing) has been tested and achieved the fire hazard indices 0,0,0,1.<br>MD foil has less combustibles than HD foil. Therefore, MD foil with one Antiglare surface is also likely to achieve the fire hazard indices 0,0,0,1. |
| HD foil with one Antiglare surface | HD foil-faced Bradford Glasswool Ultratel.                                                                                  | One outer foil layer on HD foil is replaced with an Antiglare foil layer to make heavy duty aluminium foil with one Antiglare surface.                                                 | FNE9788     | 0, 0, 0, 0-1                   | The two individual facing components have been tested and collectively achieved the lowest possible results. The use of the two items together is also likely to achieve the fire hazard indices 0, 0, 0, 1.                                                                          |
|                                    | HD Sarking 753 – Reflective sarking wrapped with anti-glare                                                                 | The Antiglare layer on heavy duty aluminium foil laminate has been tested separately.                                                                                                  | 18-000736   | 0, 0, 0, 1                     |                                                                                                                                                                                                                                                                                       |
| LD 'FC' Foil                       | MD aluminium foil-faced Bradford Glasswool Ultratel.                                                                        | LD 'FC' foil is similar to LD foil. LD foil contains the same materials, but less layers of Kraft paper and adhesive than the MD aluminium foil. LD 'FC' has 'FC' printed on the foil. | FNE9787     | 0, 0, 0, 1                     | LD 'FC' has some imprint on it. Its composition is the same as LD foil. Therefore, it is likely to give similar results to LD foil – if tested. It is likely to achieve the fire hazard indices 0, 0, 0, 1.                                                                           |
| Medium Duty Perforated (MDP) foil  | MD foil-faced Bradford Glasswool Ultratel                                                                                   | This is a perforated version of the MD foil. The perforation pattern is the same as that used on Heavy Duty Perforated (HDP) foil.                                                     | FNE9787     | 0, 0, 0, 0-1                   | Supertel glasswool board with 750P HDP foil achieved the fire hazard indices 0, 0, 0, 2. The Smoke Developed Index shows a slight increase from the unperforated HD foil tested in FNE9788 and 18-000736 likely due to the presence of perforations.                                  |
|                                    | Thermoseal 750P HDP double sided reflective perforated foil with 2.4 mm holes giving 10% open area as facing on a Supertel. | The HDP foil has been tested on a glasswool blanket.                                                                                                                                   | FNE12137    | 0, 0, 0, 2                     | Considering that MD foil has less combustibles than HD foil, the MDP foil likely not to exceed the results obtained by the HDP foil. Accordingly, the MDP foil is also likely to achieve the fire hazard indices 0, 0, 0, 2.                                                          |
| Thermoplast 993F – White           | Thermoplast 993 White Antiglare faced glass-fibre batt.                                                                     | The new outer layer is white in colour. The Antiglare outer layer,                                                                                                                     | 7-574195-CN | 0, 0, 0, 0-1                   | The white layer – when taken in isolation – is very thin and presents very minimal combustible load. The new                                                                                                                                                                          |

| Proposed Facing Material            | Similar tested product                                                                                                      | Differences between tested and proposed facings                                                                                                                                                | Test report | Fire hazard indices from tests | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Perforated Thermoplast 993F – White | Thermoplast 993 White Antiglare faced glass-fibre batt.                                                                     | and other layers are the same as Thermoplast 993.                                                                                                                                              | 7-574195-CN | 0, 0, 0, 0-1                   | white layer is not expected to cause any variations in the results.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                                     | Thermoseal 750P HDP double sided reflective perforated foil with 2.4 mm holes giving 10% open area as facing on a Supertel. | The new outer layer is white in colour. The Antiglare outer layer, and other layers are the same as Thermoplast 993. The perforation pattern is the same as that in HDP foil.                  | FNE12137    | 0, 0, 0, 2                     | The basic Thermoplast 993F was assessed to the fire hazard indices 0, 0, 0, 0-1. The presence of perforations is likely to cause an increase in the Smoke Developed Index. HDP foil with perforations was tested and achieved the fire hazard indices 0, 0, 0, 2. As the same perforation pattern is used in the proposed Thermoplast 993F perforated version, it is also likely to achieve the fire hazard indices 0, 0, 0, 2.                                                                                                                                           |
| Perforated Thermoplast 993 – Black  | Thermoplast 993 Black faced glass-fibre batt                                                                                | The outer layer is black in colour. The other layers are the same as Thermoplast 993. The perforation pattern is the same as that in HDP foil.                                                 | 21-000496   | 0, 0, 0, 3                     | It is noteworthy that compared to the Thermoplast 993 – White tested in 7-574195-CN which achieved a Smoke Developed Index of 0-1, the tested Thermoplast 993 – Black achieved a higher Smoke Developed Index of 3. It was previously established that the presence of perforations led to a minor increase in the Smoke Developed Index. Considering this, the Smoke Developed Index of the perforated Thermoplast 993 Black is conservatively assessed to 5. Thus, the Thermoplast 993 Black with perforations is likely to achieve the fire hazard indices 0, 0, 0, 5. |
|                                     | Thermoseal 750P HDP double sided reflective perforated foil with 2.4 mm holes giving 10% open area as facing on a Supertel. | The HDP foil has been tested on a glasswool blanket.                                                                                                                                           | FNE12137    | 0, 0, 0, 2                     | The white layer – when taken in isolation – is very thin and presents very minimal combustible load. The new white layer is not expected to cause any variations in the results.                                                                                                                                                                                                                                                                                                                                                                                          |
| Thermoplast 990F – White            | Thermoplast 990 White faced glass-fibre batt.                                                                               | The new outer layer is white in colour. It is the same as that used in Thermoplast 993F. Other layers are the same as Thermoplast 990.                                                         | 7-574196-CN | 0, 0, 0, 0-1                   | Thermoplast 990 White was tested and achieved the lowest possible fire hazard indices. HDP foil with perforations was tested and achieved the fire hazard indices 0, 0, 0, 2. Conservatively, the worse results are deemed applicable for the Thermoplast 990F – White                                                                                                                                                                                                                                                                                                    |
| Perforated Thermoplast 990F – White | Thermoplast 990 White faced glass-fibre batt.                                                                               | The new outer layer is white in colour. It is the same as that used in Thermoplast 990. Other layers are the same as Thermoplast 990. The perforation pattern is the same as that in HDP foil. | 7-574196-CN | 0, 0, 0, 0-1                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| Proposed Facing Material | Similar tested product                                                                                                      | Differences between tested and proposed facings                           | Test report | Fire hazard indices from tests | Rationale                                                                                                                                                                                                                                                                                                  |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|-------------|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          | Thermoseal 750P HDP double sided reflective perforated foil with 2.4 mm holes giving 10% open area as facing on a Supertel. | The HDP foil has been tested on a glasswood blanket.                      | FNE12137    | 0, 0, 0, 2                     | perforated facing. Hence, it is assessed to achieve the fire hazard indices 0, 0, 0, 2.                                                                                                                                                                                                                    |
| PET Facing               | Supertel with HDP and PET facing                                                                                            | The PET polymer facing is used in isolation without any additional facing | 20-006531   | 17, 0, 2, 5                    | The tested system consisted of additional HDP foil which constitutes to additional combustibles. Hence, the proposed PET facing consists of lower combustibles compared to the tested specimen. Therefore, the proposed facing is likely to achieve the same or better fire hazard indices as 17, 0, 2, 5. |

## 6.4 Conclusion

Based on the discussions presented in sections 6.3.1 to 6.3.4, this assessment demonstrates that the facing options described in Table 7 are likely to achieve the fire hazard indices specified in the same table – if tested in accordance with AS/NZS 1530.3:1999.

**Table 17 Assessed fire hazard indices of various facing options to AS/NZS 1530.3:1999**

| Facing                              | Ignitability index (0-20) | Spread of flame index (0-10) | Heat evolved index (0-10) | Smoke developed index (0-10) |
|-------------------------------------|---------------------------|------------------------------|---------------------------|------------------------------|
| Unfaced                             | 0                         | 0                            | 0                         | 1                            |
| Ultraplan                           | 0                         | 0                            | 0                         | 3                            |
| MD foil                             | 0                         | 0                            | 0                         | 0-1                          |
| HD foil                             | 0                         | 0                            | 0                         | 0-1                          |
| BMF                                 | 18                        | 0                            | 0                         | 3                            |
| HDP foil                            | 0                         | 0                            | 0                         | 3                            |
| Acoustituff                         | 0                         | 0                            | 0                         | 1                            |
| Thermoseal Roof Tile Plus foil      | 0                         | 0                            | 0                         | 1                            |
| Thermoplast 993 – White (antiglare) | 0                         | 0                            | 0                         | 0-1                          |
| Thermoplast 990 – White             | 0                         | 0                            | 0                         | 0-1                          |
| LD foil                             | 0                         | 0                            | 0                         | 1                            |
| MD foil with one Antiglare surface  | 0                         | 0                            | 0                         | 1                            |
| HD foil with one Antiglare surface  | 0                         | 0                            | 0                         | 1                            |
| LD 'FC' Foil                        | 0                         | 0                            | 0                         | 1                            |
| MDP foil                            | 0                         | 0                            | 0                         | 2                            |
| Thermoplast 993F – White            | 0                         | 0                            | 0                         | 0-1                          |
| Perforated Thermoplast 993F – White | 0                         | 0                            | 0                         | 2                            |
| Thermoplast 993 – Black             | 0                         | 0                            | 0                         | 3                            |
| Perforated Thermoplast 993 – Black  | 0                         | 0                            | 0                         | 5                            |
| Thermoplast 990F – White            | 0                         | 0                            | 0                         | 0-1                          |
| Perforated Thermoplast 990F – White | 0                         | 0                            | 0                         | 2                            |
| HDP and PET                         | 17                        | 0                            | 2                         | 5                            |
| PET                                 | 17                        | 0                            | 2                         | 5                            |

## 7. Assessment 3 – Various adhesive options to AS/NZS 1530.3:1999

### 7.1 Description of variation

A range of adhesive options were used to glue fix the various facings to glass-fibre or mineral-fibre insulation products tested to AS/NZS 1530.3:1999. It is proposed that the following adhesive options can be used in conjunction with all proposed insulation batts/blankets and facing options included in this assessment.

Alternatively, the same facing options may be used with the same substrates without any adhesive. This is called the no adhesive option.

### 7.2 Methodology

The method of assessment used is summarised in Table 18.

**Table 18 Method of assessment**

| Assessment method   |                                           |
|---------------------|-------------------------------------------|
| Level of complexity | Simple assessment                         |
| Type of assessment  | Qualitative – interpolation / Comparative |

### 7.3 Assessment

#### 7.3.1 Adhesive

##### Bostik Rapidset 4725 adhesive

The majority of AS/NZS 1530.3:1999 tests conducted on various facings referenced in this assessment report incorporated Bostik Rapidset 4725 adhesive. Considering that some of the facings achieved the lowest possible fire hazard indices of 0, 0, 0, 0-1, it is likely that the Bostik Rapidset 4725 did not cause any appreciable adverse effect on the fire hazard properties of the tested facings.

##### Bostik HT adhesive

Test reports FNE9790, FNE12136, FNE10360 and FNE12137 provide the grounds for positive assessment of the Bostik adhesives. The identified reports tested Bradford Glasswool Ultratel with BMF facing and Bradford Glasswool Supertel with HDP facing. The two systems were adhered using Bostik Rapidset 4725 and Bostik HT adhesive, respectively. The results demonstrate that the Bostik HT adhesive performs better than the more widely tested Bostik Rapidset 4725 adhesive as detailed in Table 19 below. The Bostik HT adhesive can therefore be positively assessed to be unlikely to cause adverse increases in fire hazard indices – if used in conjunction with all other proposed systems (facings and substrates) outlined in this report.

**Table 19 Influence of Bostik adhesives on AS/NZS 1530.3:1999 test results**

| Facing   | Adhesive             | Test     | Insulation substrate | Ignitability index (0-20) | Spread of flame index (0-10) | Heat evolved index (0-10) | Smoke developed index (0-10) |
|----------|----------------------|----------|----------------------|---------------------------|------------------------------|---------------------------|------------------------------|
| BMF      | Bostik Rapidset 4725 | FNE9790  | Glass fibre          | 18                        | 0                            | 0                         | 3                            |
| BMF      | Bostik HT adhesive   | FNE12136 | Glass fibre          | 0                         | 0                            | 0                         | 2                            |
| HDP foil | Bostik Rapidset 4725 | FNE10360 | Glass fibre          | 0                         | 0                            | 0                         | 3                            |

| Facing   | Adhesive           | Test     | Insulation substrate | Ignitability index (0-20) | Spread of flame index (0-10) | Heat evolved index (0-10) | Smoke developed index (0-10) |
|----------|--------------------|----------|----------------------|---------------------------|------------------------------|---------------------------|------------------------------|
| HDP foil | Bostik HT adhesive | FNE12137 | Glass fibre          | 0                         | 0                            | 0                         | 2                            |

### Siegel Perma-Lok 800 adhesive

Additionally, Siegel Perma-Lok 800 can be assessed on the basis of test reports FNE12465A and 20-006531. Both these tests incorporated Siegel adhesive as shown in Table 20.

**Table 20 Influence of Siegel adhesive on AS/NZS 1530.3:1999 test results**

| Facing                  | Adhesive             | Referenced test | Insulation substrate | Ignitability index (0-20) | Spread of flame index (0-10) | Heat evolved index (0-10) | Smoke developed index (0-10) |
|-------------------------|----------------------|-----------------|----------------------|---------------------------|------------------------------|---------------------------|------------------------------|
| HDP foil                | Siegel Perma-Lok 800 | FNE12565        | Glass fibre          | 0                         | 0                            | 0                         | 2                            |
| HDP foil and PET facing | Siegel Perma-Lok 800 | 20-006531       | Glass fibre          | 17                        | 0                            | 2                         | 5                            |

The fire hazard indices obtained for HDP foil when tested with Bostik Rapidset 4725 (FNE10360) and Bostik HT (FNE12137) are either similar or worse than those obtained with Siegel Perma-Lok 800 in FNE12565. Thus, using Siegel Perma-Lok 800 with any of the facing options included in this report is unlikely to change the assessed results. The higher fire hazard indices obtained in 20-006531 are likely to be due to the PET facing and not the use of Siegel adhesive.

### 7.3.2 No adhesive option

All the adhesives discussed earlier add some finite amount of combustibles into the system. The no adhesive option reduces the amount of combustibles in the overall assembly. Test report 20-000496 consisted of Thermoplast 993 – Black facing on glasswool blanket that was not glued using any adhesive and achieved the fire hazard indices of 0, 0, 0, 3. Based on this, the use of any facing included in this assessment in conjunction with any substrate – without the use of any adhesive – is unlikely to cause an adverse impact on the assessed fire hazard performance.

## 7.4 Conclusion

Based on the above discussion, this assessment demonstrates that that all the facing options included in this assessment, when used in conjunction with the glass-fibre and mineral-fibre insulation products included in this report, are unlikely to cause any adverse effect on their fire hazard properties already assessed in accordance with AS/NZS 1530.3:1999. Alternatively, the same facings may be used with the same range of substrates without any adhesive binding them together. The no adhesive option is unlikely to cause any adverse impact on the assessed performance of the facing and substrate assembly.

## 8. Validity

Warringtonfire Australia does not endorse the tested or assessed product in any way. The conclusions of this assessment may be used to directly assess fire hazard, but it should be recognised that a single test method will not provide a full assessment of fire hazard under all conditions.

Due to the nature of fire testing and the consequent difficulty in quantifying the uncertainty of measurement, it is not possible to provide a stated degree of accuracy. The inherent variability in test procedures, materials and methods of construction, and installation may lead to variations in performance between elements of similar construction.

This assessment is based on information and experience available at the time of preparation. The published procedures for the conduct of tests and the assessment of test results are subject to constant review and improvement. It is therefore recommended that this report be reviewed on, or before, the stated expiry date.

This assessment represents our opinion about the performance likely to be demonstrated on a test in accordance with AS/NZS 1530.3:1999, based on the evidence referred to in this report.

This assessment is provided to CSR Bradford for their own specific purposes. Building certifiers and other third parties are responsible for deciding if they accept this assessment in a particular context.

Confidential - For the sole use on Project:  
Pendly Hill High School  
Cornock Ave. Toongabbie NSW  
Issued to: Greg Isaac  
Company: Fulton Trotter  
Issued By: Liam Thai  
Issued On: 4th November 2021

## Appendix A Summary of supporting test data

### A.1 Test report – FNE9785

Table 21 Information about test report FNE9785

| Item                                   | Information about test report                                                                                                                                                                                                                                                                                                                                                                                                          |             |         |                             |        |                         |       |                       |                      |         |                                     |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|-----------------------------|--------|-------------------------|-------|-----------------------|----------------------|---------|-------------------------------------|
| Report sponsor                         | CSR Building Products Limited.                                                                                                                                                                                                                                                                                                                                                                                                         |             |         |                             |        |                         |       |                       |                      |         |                                     |
| Test laboratory                        | CSIRO Materials Science and Engineering, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia.                                                                                                                                                                                                                                                                                                                  |             |         |                             |        |                         |       |                       |                      |         |                                     |
| Test date                              | The reaction to fire test was completed on 26 May 2010.                                                                                                                                                                                                                                                                                                                                                                                |             |         |                             |        |                         |       |                       |                      |         |                                     |
| Test standards                         | The test was done in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                                                                                                                               |             |         |                             |        |                         |       |                       |                      |         |                                     |
| Variation to test standards            | None                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |         |                             |        |                         |       |                       |                      |         |                                     |
| General description of tested specimen | <p>Ultraphon facing adhered to Bradford Glasswool Ultratel glass-fibre insulation batt backing.</p> <table> <tr> <th>Description</th><th>Details</th></tr> <tr> <td>Nominal thickness of facing</td><td>1.0 mm</td></tr> <tr> <td>Nominal total thickness</td><td>50 mm</td></tr> <tr> <td>Nominal total density</td><td>48 kg/m<sup>3</sup></td></tr> <tr> <td>Colours</td><td>Black (exposed face), yellow (batt)</td></tr> </table> | Description | Details | Nominal thickness of facing | 1.0 mm | Nominal total thickness | 50 mm | Nominal total density | 48 kg/m <sup>3</sup> | Colours | Black (exposed face), yellow (batt) |
| Description                            | Details                                                                                                                                                                                                                                                                                                                                                                                                                                |             |         |                             |        |                         |       |                       |                      |         |                                     |
| Nominal thickness of facing            | 1.0 mm                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |         |                             |        |                         |       |                       |                      |         |                                     |
| Nominal total thickness                | 50 mm                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |         |                             |        |                         |       |                       |                      |         |                                     |
| Nominal total density                  | 48 kg/m <sup>3</sup>                                                                                                                                                                                                                                                                                                                                                                                                                   |             |         |                             |        |                         |       |                       |                      |         |                                     |
| Colours                                | Black (exposed face), yellow (batt)                                                                                                                                                                                                                                                                                                                                                                                                    |             |         |                             |        |                         |       |                       |                      |         |                                     |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                                                                                             |             |         |                             |        |                         |       |                       |                      |         |                                     |

### A.2 Test report – FNE10360

Table 22 Information about test report FNE10360

| Item                                   | Information about test report                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |         |                           |         |                         |       |                       |                      |         |                                                |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|---------------------------|---------|-------------------------|-------|-----------------------|----------------------|---------|------------------------------------------------|
| Report sponsor                         | CSR Building Products Limited.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |         |                           |         |                         |       |                       |                      |         |                                                |
| Test laboratory                        | CSIRO Materials Science and Engineering, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |         |                           |         |                         |       |                       |                      |         |                                                |
| Test date                              | The reaction to fire test was completed on 9 December 2011.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |         |                           |         |                         |       |                       |                      |         |                                                |
| Test standards                         | The test was done in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |         |                           |         |                         |       |                       |                      |         |                                                |
| Variation to test standards            | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |         |                           |         |                         |       |                       |                      |         |                                                |
| General description of tested specimen | <p>Heavy duty perforated (HDP) aluminium foil facing adhered to a Bradford 50 mm Supertel Board glass-fibre insulation backing bonded by thermosetting resin. Foil bonded to backing by Bostik Rapidset 4725 / EVA adhesive at an application rate of 20 – 30 g/m<sup>2</sup>.</p> <table> <tr> <th>Description</th><th>Details</th></tr> <tr> <td>Nominal thickness of foil</td><td>0.13 mm</td></tr> <tr> <td>Nominal total thickness</td><td>50 mm</td></tr> <tr> <td>Nominal total density</td><td>32 kg/m<sup>3</sup></td></tr> <tr> <td>Colours</td><td>Silver (exposed face), golden yellow (backing)</td></tr> </table> | Description | Details | Nominal thickness of foil | 0.13 mm | Nominal total thickness | 50 mm | Nominal total density | 32 kg/m <sup>3</sup> | Colours | Silver (exposed face), golden yellow (backing) |
| Description                            | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |         |                           |         |                         |       |                       |                      |         |                                                |
| Nominal thickness of foil              | 0.13 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |         |                           |         |                         |       |                       |                      |         |                                                |
| Nominal total thickness                | 50 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |         |                           |         |                         |       |                       |                      |         |                                                |
| Nominal total density                  | 32 kg/m <sup>3</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |         |                           |         |                         |       |                       |                      |         |                                                |
| Colours                                | Silver (exposed face), golden yellow (backing)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |         |                           |         |                         |       |                       |                      |         |                                                |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |         |                           |         |                         |       |                       |                      |         |                                                |

The test specimens described in sections A.1 and A.2 achieved the same results – see Table 23.

**Table 23 Identical results summary obtained for test reports FNE9785 and FNE10360**

| Ignitability Index (0-20) | Spread of Flame Index (0-10) | Heat Evolved Index (0-10) | Smoke Developed Index (0-10) |
|---------------------------|------------------------------|---------------------------|------------------------------|
| 0                         | 0                            | 0                         | 3                            |

### A.3 Test report – FNE9787

**Table 24 Information about test report FNE9787**

| Item                                   | Information about test report                                                                                                                                                                                                                                                                                                                                                                 |             |         |                         |       |                       |                      |         |                                      |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|-------------------------|-------|-----------------------|----------------------|---------|--------------------------------------|
| Report sponsor                         | CSR Building Products Limited.                                                                                                                                                                                                                                                                                                                                                                |             |         |                         |       |                       |                      |         |                                      |
| Test laboratory                        | CSIRO Materials Science and Engineering, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia.                                                                                                                                                                                                                                                                         |             |         |                         |       |                       |                      |         |                                      |
| Test date                              | The reaction to fire test was completed on 9 June 2010.                                                                                                                                                                                                                                                                                                                                       |             |         |                         |       |                       |                      |         |                                      |
| Test standards                         | The test was done in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                                                                                      |             |         |                         |       |                       |                      |         |                                      |
| Variation to test standards            | None                                                                                                                                                                                                                                                                                                                                                                                          |             |         |                         |       |                       |                      |         |                                      |
| General description of tested specimen | <p>Medium density aluminium foil facing adhered to Bradford Glasswool Ultratel glass-fibre insulation batt-backing.</p> <table> <tr> <th>Description</th><th>Details</th></tr> <tr> <td>Nominal total thickness</td><td>50 mm</td></tr> <tr> <td>Nominal total density</td><td>48 kg/m<sup>3</sup></td></tr> <tr> <td>Colours</td><td>Silver (exposed face), yellow (batt)</td></tr> </table> | Description | Details | Nominal total thickness | 50 mm | Nominal total density | 48 kg/m <sup>3</sup> | Colours | Silver (exposed face), yellow (batt) |
| Description                            | Details                                                                                                                                                                                                                                                                                                                                                                                       |             |         |                         |       |                       |                      |         |                                      |
| Nominal total thickness                | 50 mm                                                                                                                                                                                                                                                                                                                                                                                         |             |         |                         |       |                       |                      |         |                                      |
| Nominal total density                  | 48 kg/m <sup>3</sup>                                                                                                                                                                                                                                                                                                                                                                          |             |         |                         |       |                       |                      |         |                                      |
| Colours                                | Silver (exposed face), yellow (batt)                                                                                                                                                                                                                                                                                                                                                          |             |         |                         |       |                       |                      |         |                                      |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                                                    |             |         |                         |       |                       |                      |         |                                      |

### A.4 Test report – FNE9788

**Table 25 Information about test report FNE9788**

| Item                                   | Information about test report                                                                                                                                                                                                                                                                                                                                                             |             |         |                         |       |                       |                      |         |                                      |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|-------------------------|-------|-----------------------|----------------------|---------|--------------------------------------|
| Report sponsor                         | CSR Building Products Limited.                                                                                                                                                                                                                                                                                                                                                            |             |         |                         |       |                       |                      |         |                                      |
| Test laboratory                        | CSIRO Materials Science and Engineering, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia.                                                                                                                                                                                                                                                                     |             |         |                         |       |                       |                      |         |                                      |
| Test date                              | The reaction to fire test was completed on 9 June 2010.                                                                                                                                                                                                                                                                                                                                   |             |         |                         |       |                       |                      |         |                                      |
| Test standards                         | The test was done in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                                                                                  |             |         |                         |       |                       |                      |         |                                      |
| Variation to test standards            | None                                                                                                                                                                                                                                                                                                                                                                                      |             |         |                         |       |                       |                      |         |                                      |
| General description of tested specimen | <p>Heavy duty aluminium foil facing adhered to Bradford Glasswool Ultratel glass-fibre insulation batt backing.</p> <table> <tr> <th>Description</th><th>Details</th></tr> <tr> <td>Nominal total thickness</td><td>50 mm</td></tr> <tr> <td>Nominal total density</td><td>48 kg/m<sup>3</sup></td></tr> <tr> <td>Colours</td><td>Silver (exposed face), yellow (batt)</td></tr> </table> | Description | Details | Nominal total thickness | 50 mm | Nominal total density | 48 kg/m <sup>3</sup> | Colours | Silver (exposed face), yellow (batt) |
| Description                            | Details                                                                                                                                                                                                                                                                                                                                                                                   |             |         |                         |       |                       |                      |         |                                      |
| Nominal total thickness                | 50 mm                                                                                                                                                                                                                                                                                                                                                                                     |             |         |                         |       |                       |                      |         |                                      |
| Nominal total density                  | 48 kg/m <sup>3</sup>                                                                                                                                                                                                                                                                                                                                                                      |             |         |                         |       |                       |                      |         |                                      |
| Colours                                | Silver (exposed face), yellow (batt)                                                                                                                                                                                                                                                                                                                                                      |             |         |                         |       |                       |                      |         |                                      |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                                                |             |         |                         |       |                       |                      |         |                                      |

The test specimens described in sections A.3 and A.4 achieved the same results – see Table 26.

**Table 26 Identical results summary for test reports FNE9787 and FNE 9788**

| Ignitability Index (0-20) | Spread of Flame Index (0-10) | Heat Evolved Index (0-10) | Smoke Development Index (0-10) |
|---------------------------|------------------------------|---------------------------|--------------------------------|
| 0                         | 0                            | 0                         | 0-1                            |

## A.5 Test report – FNE9790

**Table 27 Information about test report FNE9790**

| Item                                   | Information about test report                                                                                                                                                                                                                                                                                                                             |             |         |                         |       |                       |                      |         |                                     |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|-------------------------|-------|-----------------------|----------------------|---------|-------------------------------------|
| Report sponsor                         | CSR Building Products Limited.                                                                                                                                                                                                                                                                                                                            |             |         |                         |       |                       |                      |         |                                     |
| Test laboratory                        | CSIRO Materials Science and Engineering, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia.                                                                                                                                                                                                                                     |             |         |                         |       |                       |                      |         |                                     |
| Test date                              | The reaction to fire test was completed on 10 June 2010.                                                                                                                                                                                                                                                                                                  |             |         |                         |       |                       |                      |         |                                     |
| Test standards                         | The test was done in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                                                  |             |         |                         |       |                       |                      |         |                                     |
| Variation to test standards            | None                                                                                                                                                                                                                                                                                                                                                      |             |         |                         |       |                       |                      |         |                                     |
| General description of tested specimen | <p>BMF facing adhered to Bradford Glasswool glass-fibre insulation batt backing.</p> <table> <tr> <th>Description</th><th>Details</th></tr> <tr> <td>Nominal total thickness</td><td>50 mm</td></tr> <tr> <td>Nominal total density</td><td>48 kg/m<sup>3</sup></td></tr> <tr> <td>Colours</td><td>Black (exposed face), yellow (batt)</td></tr> </table> | Description | Details | Nominal total thickness | 50 mm | Nominal total density | 48 kg/m <sup>3</sup> | Colours | Black (exposed face), yellow (batt) |
| Description                            | Details                                                                                                                                                                                                                                                                                                                                                   |             |         |                         |       |                       |                      |         |                                     |
| Nominal total thickness                | 50 mm                                                                                                                                                                                                                                                                                                                                                     |             |         |                         |       |                       |                      |         |                                     |
| Nominal total density                  | 48 kg/m <sup>3</sup>                                                                                                                                                                                                                                                                                                                                      |             |         |                         |       |                       |                      |         |                                     |
| Colours                                | Black (exposed face), yellow (batt)                                                                                                                                                                                                                                                                                                                       |             |         |                         |       |                       |                      |         |                                     |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                |             |         |                         |       |                       |                      |         |                                     |

The test specimen achieved the following results – see Table 28.

**Table 28 Results summary for test report FNE9790**

| Ignitability Index (0-20) | Spread of Flame Index (0-10) | Heat Evolved Index (0-10) | Smoke Development Index (0-10) |
|---------------------------|------------------------------|---------------------------|--------------------------------|
| 18                        | 0                            | 0                         | 3                              |

## A.6 Test report – FNE10361

**Table 29 Information about test report FNE10361**

| Item                                   | Information about test report                                                                                                                                                                                                                               |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Report sponsor                         | CSR Building Products Limited.                                                                                                                                                                                                                              |
| Test laboratory                        | CSIRO Materials Science and Engineering, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia.                                                                                                                                       |
| Test date                              | The reaction to fire test was completed on 9 December 2011.                                                                                                                                                                                                 |
| Test standards                         | The test was done in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                    |
| Variation to test standards            | None                                                                                                                                                                                                                                                        |
| General description of tested specimen | Acoustituff aluminium foil facing adhered to Bradford 50 mm Supertel Board glass-fibre insulation backing bonded by thermosetting resin. Foil bonded to backing by Bostik Rapidset 4725 / EVA adhesive at an application rate of 20 – 30 g/m <sup>2</sup> . |

| Item            | Information about test report                                                              |                                                |
|-----------------|--------------------------------------------------------------------------------------------|------------------------------------------------|
|                 | Description                                                                                | Details                                        |
|                 | Nominal thickness of foil                                                                  | 0.12 mm                                        |
|                 | Nominal total thickness                                                                    | 50 mm                                          |
|                 | Nominal total density                                                                      | 32 kg/m <sup>3</sup>                           |
|                 | Colours                                                                                    | Silver (exposed face), golden yellow (backing) |
| Instrumentation | The test report states that the instrumentation was in accordance with AS/NZS 1530.3:1999. |                                                |

## A.7 Test report – FNE10364

Table 30 Information about test report FNE10364

| Item                                   | Information about test report                                                                                                                                                                                                                              |                                                |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| Report sponsor                         | CSR Building Products Limited.                                                                                                                                                                                                                             |                                                |
| Test laboratory                        | CSIRO Materials Science and Engineering, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia.                                                                                                                                      |                                                |
| Test date                              | The reaction to fire test was completed on 20 December 2011.                                                                                                                                                                                               |                                                |
| Test standards                         | The test was done in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                   |                                                |
| Variation to test standards            | None                                                                                                                                                                                                                                                       |                                                |
| General description of tested specimen | Acoustiuff aluminium foil facing adhered to Bradford 50 mm Ultratel Board glass-fibre insulation backing bonded by thermosetting resin. Foil bonded to backing by Bostik Rapidset 4725 / EVA adhesive at an application rate of 20 – 30 g/m <sup>2</sup> . |                                                |
|                                        | Description                                                                                                                                                                                                                                                | Details                                        |
|                                        | Nominal thickness of foil                                                                                                                                                                                                                                  | 0.12 mm                                        |
|                                        | Nominal total thickness                                                                                                                                                                                                                                    | 50 mm                                          |
|                                        | Nominal total density                                                                                                                                                                                                                                      | 32 kg/m <sup>3</sup>                           |
|                                        | Colours                                                                                                                                                                                                                                                    | Silver (exposed face), golden yellow (backing) |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                 |                                                |

## A.8 Test report – FNE11429

Table 31 Information about test report FNE11429

| Item                        | Information about test report                                                                                   |  |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------|--|
| Report sponsor              | CSR Building Products Limited.                                                                                  |  |
| Test laboratory             | CSIRO Infrastructure Technologies, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia. |  |
| Test date                   | The reaction to fire test was completed on 6 July 2015.                                                         |  |
| Test standards              | The test was done in accordance with AS/NZS 1530.3:1999.                                                        |  |
| Variation to test standards | None                                                                                                            |  |

| Item                                   | Information about test report                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |         |                                  |         |                         |       |                       |                      |         |                                          |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|----------------------------------|---------|-------------------------|-------|-----------------------|----------------------|---------|------------------------------------------|
| General description of tested specimen | <p>Enviroseal Roof Tile Plus-faced Bradford Ultratel glasswool board. Foil facing bonded to board by Bostik Rapidset 4725 adhesive at an application rate of 35 g/m<sup>2</sup>.</p> <p>It has been confirmed by CSR Building Products Limited that this product is now identified as Thermoseal Roof Tile Plus-faced and that this is purely a name change without any change to the product.</p> <table> <tr> <th>Description</th><th>Details</th></tr> <tr> <td>Nominal thickness of foil facing</td><td>0.33 mm</td></tr> <tr> <td>Nominal total thickness</td><td>50 mm</td></tr> <tr> <td>Nominal total density</td><td>48 kg/m<sup>3</sup></td></tr> <tr> <td>Colours</td><td>Silver (foil), golden yellow (glasswool)</td></tr> </table> | Description | Details | Nominal thickness of foil facing | 0.33 mm | Nominal total thickness | 50 mm | Nominal total density | 48 kg/m <sup>3</sup> | Colours | Silver (foil), golden yellow (glasswool) |
| Description                            | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |         |                                  |         |                         |       |                       |                      |         |                                          |
| Nominal thickness of foil facing       | 0.33 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |         |                                  |         |                         |       |                       |                      |         |                                          |
| Nominal total thickness                | 50 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |         |                                  |         |                         |       |                       |                      |         |                                          |
| Nominal total density                  | 48 kg/m <sup>3</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |             |         |                                  |         |                         |       |                       |                      |         |                                          |
| Colours                                | Silver (foil), golden yellow (glasswool)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |         |                                  |         |                         |       |                       |                      |         |                                          |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |         |                                  |         |                         |       |                       |                      |         |                                          |

All the test specimens described in sections A.6 to A.8 achieved the same results – see Table 32.

**Table 32 Identical results summary obtained for test reports FNE10361, FNE10364 and FNE11429**

| Ignitability Index (0-20) | Spread of Flame Index (0-10) | Heat Evolved Index (0-10) | Smoke Development index (0-10) |
|---------------------------|------------------------------|---------------------------|--------------------------------|
| 0                         | 0                            | 0                         | 1                              |

## A.9 Test report – 7-574195-CN

**Table 33 Information about test report 7-574195-CN**

| Item                                   | Information about test report                                                                                                                                                                                                                                                                                                                                                                    |             |         |                         |       |                        |                       |        |       |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|-------------------------|-------|------------------------|-----------------------|--------|-------|
| Report sponsor                         | CSR Performance Systems.                                                                                                                                                                                                                                                                                                                                                                         |             |         |                         |       |                        |                       |        |       |
| Test laboratory                        | AWTA Product Testing, 1 <sup>st</sup> Floor, 191 Racecourse Road, Flemington, Victoria 3051, Australia.                                                                                                                                                                                                                                                                                          |             |         |                         |       |                        |                       |        |       |
| Test date                              | The reaction to fire test was completed on 10 August 2010.                                                                                                                                                                                                                                                                                                                                       |             |         |                         |       |                        |                       |        |       |
| Test standards                         | The test was done in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                                                                                         |             |         |                         |       |                        |                       |        |       |
| Variation to test standards            | None                                                                                                                                                                                                                                                                                                                                                                                             |             |         |                         |       |                        |                       |        |       |
| General description of tested specimen | <p>CSR Bradford Thermoplast 993 white (antiglare).</p> <p>Nominal layered composition of foil/paper/foil/sarking fabric/glass fibre insulation batt.</p> <table> <tr> <th>Description</th><th>Details</th></tr> <tr> <td>Nominal total thickness</td><td>60 mm</td></tr> <tr> <td>Approximate total mass</td><td>1030 g/m<sup>3</sup></td></tr> <tr> <td>Colour</td><td>White</td></tr> </table> | Description | Details | Nominal total thickness | 60 mm | Approximate total mass | 1030 g/m <sup>3</sup> | Colour | White |
| Description                            | Details                                                                                                                                                                                                                                                                                                                                                                                          |             |         |                         |       |                        |                       |        |       |
| Nominal total thickness                | 60 mm                                                                                                                                                                                                                                                                                                                                                                                            |             |         |                         |       |                        |                       |        |       |
| Approximate total mass                 | 1030 g/m <sup>3</sup>                                                                                                                                                                                                                                                                                                                                                                            |             |         |                         |       |                        |                       |        |       |
| Colour                                 | White                                                                                                                                                                                                                                                                                                                                                                                            |             |         |                         |       |                        |                       |        |       |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                                                       |             |         |                         |       |                        |                       |        |       |

## A.10 Test report – 7-574196-CN

**Table 34** Information about test report 7-574196-CN

| Item                                   | Information about test report                                                                                                                                                                                                                                                                                                                         |             |         |                         |       |                        |                      |        |                                |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|-------------------------|-------|------------------------|----------------------|--------|--------------------------------|
| Report sponsor                         | CSR Performance Systems.                                                                                                                                                                                                                                                                                                                              |             |         |                         |       |                        |                      |        |                                |
| Test laboratory                        | AWTA Product Testing, 1 <sup>st</sup> Floor, 191 Racecourse Road, Flemington, Victoria 3051, Australia.                                                                                                                                                                                                                                               |             |         |                         |       |                        |                      |        |                                |
| Test date                              | The reaction to fire test was completed on 11 August 2010.                                                                                                                                                                                                                                                                                            |             |         |                         |       |                        |                      |        |                                |
| Test standards                         | The test was done in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                                              |             |         |                         |       |                        |                      |        |                                |
| Variation to test standards            | None                                                                                                                                                                                                                                                                                                                                                  |             |         |                         |       |                        |                      |        |                                |
| General description of tested specimen | <p>CSR Bradford Thermoplast 990 white.<br/>Sarking material over insulation batt.</p> <table> <tr> <th>Description</th><th>Details</th></tr> <tr> <td>Nominal total thickness</td><td>60 mm</td></tr> <tr> <td>Approximate total mass</td><td>960 g/m<sup>2</sup></td></tr> <tr> <td>Colour</td><td>Silver (facing), yellow (back)</td></tr> </table> | Description | Details | Nominal total thickness | 60 mm | Approximate total mass | 960 g/m <sup>2</sup> | Colour | Silver (facing), yellow (back) |
| Description                            | Details                                                                                                                                                                                                                                                                                                                                               |             |         |                         |       |                        |                      |        |                                |
| Nominal total thickness                | 60 mm                                                                                                                                                                                                                                                                                                                                                 |             |         |                         |       |                        |                      |        |                                |
| Approximate total mass                 | 960 g/m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                  |             |         |                         |       |                        |                      |        |                                |
| Colour                                 | Silver (facing), yellow (back)                                                                                                                                                                                                                                                                                                                        |             |         |                         |       |                        |                      |        |                                |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                            |             |         |                         |       |                        |                      |        |                                |

The test specimens described in sections A.9 and A.10 achieved the same results – see Table 35.

**Table 35** Identical results summary obtained for test reports 7-574195-CN and 7-574196-CN

| Ignitability Index (0-20) | Spread of Flame Index (0-10) | Heat Evolved Index (0-10) | Smoke Development Index (0-10) |
|---------------------------|------------------------------|---------------------------|--------------------------------|
| 0                         | 0                            | 0                         | 0-1                            |

## A.11 Test report – FNE12136

**Table 36** Information about test report FNE12136

| Item                                   | Information about test report                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |         |                         |         |                           |                      |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|-------------------------|---------|---------------------------|----------------------|
| Report sponsor                         | CSR Building Products Limited.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |         |                         |         |                           |                      |
| Test laboratory                        | CSIRO Infrastructure Technologies, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |         |                         |         |                           |                      |
| Test date                              | The reaction to fire test was completed on 26 March 2018.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |         |                         |         |                           |                      |
| Test standards                         | The test was done in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |         |                         |         |                           |                      |
| Variation to test standards            | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |             |         |                         |         |                           |                      |
| General description of tested specimen | <p>50 mm Ultratel Board – faced on one side with Black Matt Facing (BMF).<br/>Glasswool insulation board bonded with 13% by mass phenolic resin binder.<br/>The board consisted of two layers, a 0.6 mm random felted glass fibre tissue (Regina P500 PVB) dyed black (BMF) layer and a 50 mm glasswool layer.<br/>The BMF bonded onto the glasswool board with Bostik HT adhesive applied at an application rate of 25 g/m<sup>2</sup>.</p> <table> <tr> <th>Description</th><th>Details</th></tr> <tr> <td>Nominal total thickness</td><td>50.6 mm</td></tr> <tr> <td>Nominal glasswool density</td><td>48 kg/m<sup>3</sup></td></tr> </table> | Description | Details | Nominal total thickness | 50.6 mm | Nominal glasswool density | 48 kg/m <sup>3</sup> |
| Description                            | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |         |                         |         |                           |                      |
| Nominal total thickness                | 50.6 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |         |                         |         |                           |                      |
| Nominal glasswool density              | 48 kg/m <sup>3</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |             |         |                         |         |                           |                      |

| Item            | Information about test report                                                              |                                          |
|-----------------|--------------------------------------------------------------------------------------------|------------------------------------------|
|                 | Nominal BMF mass                                                                           | 60 g/m <sup>2</sup>                      |
|                 | Colour                                                                                     | Yellow (glasswool), black (exposed face) |
| Instrumentation | The test report states that the instrumentation was in accordance with AS/NZS 1530.3:1999. |                                          |

## A.12 Test report – FNE12137

**Table 37 Information about test report FNE12137**

| Item                                   | Information about test report                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |         |                         |         |                           |                      |                       |                      |        |                                           |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|-------------------------|---------|---------------------------|----------------------|-----------------------|----------------------|--------|-------------------------------------------|
| Report sponsor                         | CSR Building Products Limited.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |         |                         |         |                           |                      |                       |                      |        |                                           |
| Test laboratory                        | CSIRO Infrastructure Technologies, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |         |                         |         |                           |                      |                       |                      |        |                                           |
| Test date                              | The reaction to fire test was completed on 26 March 2018.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |         |                         |         |                           |                      |                       |                      |        |                                           |
| Test standards                         | The test was done in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |         |                         |         |                           |                      |                       |                      |        |                                           |
| Variation to test standards            | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |         |                         |         |                           |                      |                       |                      |        |                                           |
| General description of tested specimen | <p>50 mm Supertel Board – faced on one side with 750P Heavy Duty Perforated Foil (HDP).</p> <p>Glasswool insulation board bonded with 13% by mass phenolic resin binder. The board consisted of two layers, a layer consisting of 0.3 mm Thermoseal 750P heavy duty (HDP) double sided reflective perforated foil with 2.4 mm holes giving 10% open area and a 50 mm glasswool layer.</p> <p>The HDP foil bonded onto the glasswool board with Bostik HT adhesive applied at an application rate of 25 g/m<sup>2</sup>.</p> <table border="1"> <thead> <tr> <th>Description</th><th>Details</th></tr> </thead> <tbody> <tr> <td>Nominal total thickness</td><td>50.3 mm</td></tr> <tr> <td>Nominal glasswool density</td><td>32 kg/m<sup>3</sup></td></tr> <tr> <td>Nominal HDP foil mass</td><td>350 g/m<sup>2</sup></td></tr> <tr> <td>Colour</td><td>Yellow (glasswool), silver (exposed face)</td></tr> </tbody> </table> | Description | Details | Nominal total thickness | 50.3 mm | Nominal glasswool density | 32 kg/m <sup>3</sup> | Nominal HDP foil mass | 350 g/m <sup>2</sup> | Colour | Yellow (glasswool), silver (exposed face) |
| Description                            | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |         |                         |         |                           |                      |                       |                      |        |                                           |
| Nominal total thickness                | 50.3 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |         |                         |         |                           |                      |                       |                      |        |                                           |
| Nominal glasswool density              | 32 kg/m <sup>3</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |         |                         |         |                           |                      |                       |                      |        |                                           |
| Nominal HDP foil mass                  | 350 g/m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |         |                         |         |                           |                      |                       |                      |        |                                           |
| Colour                                 | Yellow (glasswool), silver (exposed face)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |         |                         |         |                           |                      |                       |                      |        |                                           |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |         |                         |         |                           |                      |                       |                      |        |                                           |

The test specimens described in sections A.11 and A.12 achieved the same results – see Table 38.

**Table 38 Identical results summary obtained for test reports FNE12136 and FNE12137**

| Ignitability Index (0-20) | Spread of Flame Index (0-10) | Heat Evolved Index (0-10) | Smoke Development Index (0-10) |
|---------------------------|------------------------------|---------------------------|--------------------------------|
| 0                         | 0                            | 0                         | 2                              |

## A.13 Test report – FNE9690

**Table 39** Information about test report FNE9690

| Item                                   | Information about test report                                                                                                                                                                                                                                                                                                                              |             |         |                 |                                                |                   |        |        |       |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|-----------------|------------------------------------------------|-------------------|--------|--------|-------|
| Report sponsor                         | CSR Building Products Limited.                                                                                                                                                                                                                                                                                                                             |             |         |                 |                                                |                   |        |        |       |
| Test laboratory                        | CSIRO Materials Science and Engineering, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia.                                                                                                                                                                                                                                      |             |         |                 |                                                |                   |        |        |       |
| Test date                              | The reaction to fire test was completed on 1 March 2010.                                                                                                                                                                                                                                                                                                   |             |         |                 |                                                |                   |        |        |       |
| Test standards                         | The test was done in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                                                   |             |         |                 |                                                |                   |        |        |       |
| Variation to test standards            | None                                                                                                                                                                                                                                                                                                                                                       |             |         |                 |                                                |                   |        |        |       |
| General description of tested specimen | Rockwool building grade loose fill granulated insulation. <table border="1"> <thead> <tr> <th>Description</th><th>Details</th></tr> </thead> <tbody> <tr> <td>Nominal density</td><td>20 kg/m<sup>3</sup> and 100 kg/m<sup>3</sup></td></tr> <tr> <td>Nominal thickness</td><td>100 mm</td></tr> <tr> <td>Colour</td><td>Brown</td></tr> </tbody> </table> | Description | Details | Nominal density | 20 kg/m <sup>3</sup> and 100 kg/m <sup>3</sup> | Nominal thickness | 100 mm | Colour | Brown |
| Description                            | Details                                                                                                                                                                                                                                                                                                                                                    |             |         |                 |                                                |                   |        |        |       |
| Nominal density                        | 20 kg/m <sup>3</sup> and 100 kg/m <sup>3</sup>                                                                                                                                                                                                                                                                                                             |             |         |                 |                                                |                   |        |        |       |
| Nominal thickness                      | 100 mm                                                                                                                                                                                                                                                                                                                                                     |             |         |                 |                                                |                   |        |        |       |
| Colour                                 | Brown                                                                                                                                                                                                                                                                                                                                                      |             |         |                 |                                                |                   |        |        |       |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                 |             |         |                 |                                                |                   |        |        |       |

The test specimen achieved the following results – see Table 40.

**Table 40** Results summary for this test report

| Ignitability Index (0-20) | Spread of Flame Index (0-10) | Heat Evolved Index (0-10) | Smoke Development Index (0-10) |
|---------------------------|------------------------------|---------------------------|--------------------------------|
| 0                         | 0                            | 0                         | 0-1                            |

## A.14 Test report – FNE11527

**Table 41** Information about test report FNE11527

| Item                                   | Information about test report                                                                                                                                                                                                                                                                                           |             |         |                 |                       |                   |        |        |       |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|-----------------|-----------------------|-------------------|--------|--------|-------|
| Report sponsor                         | CSR Building Products Limited.                                                                                                                                                                                                                                                                                          |             |         |                 |                       |                   |        |        |       |
| Test laboratory                        | CSIRO Infrastructure Technologies, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia.                                                                                                                                                                                                         |             |         |                 |                       |                   |        |        |       |
| Test date                              | The reaction to fire test was completed on 18 March 2016.                                                                                                                                                                                                                                                               |             |         |                 |                       |                   |        |        |       |
| Test standards                         | The test was done in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                |             |         |                 |                       |                   |        |        |       |
| Variation to test standards            | None                                                                                                                                                                                                                                                                                                                    |             |         |                 |                       |                   |        |        |       |
| General description of tested specimen | CSR Bradford Rockwool Granulated (loose-fill). <table border="1"> <thead> <tr> <th>Description</th><th>Details</th></tr> </thead> <tbody> <tr> <td>Nominal density</td><td>100 kg/m<sup>3</sup></td></tr> <tr> <td>Nominal thickness</td><td>100 mm</td></tr> <tr> <td>Colour</td><td>White</td></tr> </tbody> </table> | Description | Details | Nominal density | 100 kg/m <sup>3</sup> | Nominal thickness | 100 mm | Colour | White |
| Description                            | Details                                                                                                                                                                                                                                                                                                                 |             |         |                 |                       |                   |        |        |       |
| Nominal density                        | 100 kg/m <sup>3</sup>                                                                                                                                                                                                                                                                                                   |             |         |                 |                       |                   |        |        |       |
| Nominal thickness                      | 100 mm                                                                                                                                                                                                                                                                                                                  |             |         |                 |                       |                   |        |        |       |
| Colour                                 | White                                                                                                                                                                                                                                                                                                                   |             |         |                 |                       |                   |        |        |       |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                              |             |         |                 |                       |                   |        |        |       |

## A.15 Test report – FNE11655

**Table 42 Information about test report FNE11655**

| Item                                   | Information about test report                                                                                                                                                                                                                                                                                                                           |             |         |                   |        |              |                       |                 |                       |        |        |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|-------------------|--------|--------------|-----------------------|-----------------|-----------------------|--------|--------|
| Report sponsor                         | CSR Building Products Limited.                                                                                                                                                                                                                                                                                                                          |             |         |                   |        |              |                       |                 |                       |        |        |
| Test laboratory                        | CSIRO Infrastructure Technologies, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia.                                                                                                                                                                                                                                         |             |         |                   |        |              |                       |                 |                       |        |        |
| Test date                              | The reaction to fire test was completed on 8 March 2016.                                                                                                                                                                                                                                                                                                |             |         |                   |        |              |                       |                 |                       |        |        |
| Test standards                         | The test was done in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                                                |             |         |                   |        |              |                       |                 |                       |        |        |
| Variation to test standards            | None                                                                                                                                                                                                                                                                                                                                                    |             |         |                   |        |              |                       |                 |                       |        |        |
| General description of tested specimen | <p>CSR Bradford Rockwool Fibretex – 820 insulation board.</p> <table> <tr> <th>Description</th><th>Details</th></tr> <tr> <td>Nominal thickness</td><td>100 mm</td></tr> <tr> <td>Nominal mass</td><td>2.7 kg/m<sup>2</sup></td></tr> <tr> <td>Nominal density</td><td>110 kg/m<sup>3</sup></td></tr> <tr> <td>Colour</td><td>Yellow</td></tr> </table> | Description | Details | Nominal thickness | 100 mm | Nominal mass | 2.7 kg/m <sup>2</sup> | Nominal density | 110 kg/m <sup>3</sup> | Colour | Yellow |
| Description                            | Details                                                                                                                                                                                                                                                                                                                                                 |             |         |                   |        |              |                       |                 |                       |        |        |
| Nominal thickness                      | 100 mm                                                                                                                                                                                                                                                                                                                                                  |             |         |                   |        |              |                       |                 |                       |        |        |
| Nominal mass                           | 2.7 kg/m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                   |             |         |                   |        |              |                       |                 |                       |        |        |
| Nominal density                        | 110 kg/m <sup>3</sup>                                                                                                                                                                                                                                                                                                                                   |             |         |                   |        |              |                       |                 |                       |        |        |
| Colour                                 | Yellow                                                                                                                                                                                                                                                                                                                                                  |             |         |                   |        |              |                       |                 |                       |        |        |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                              |             |         |                   |        |              |                       |                 |                       |        |        |

## A.16 Test report – FNE9589

**Table 43 Information about test report FNE9589**

| Item                                   | Information about test report                                                                                                                                                                                                                                                                                                |             |         |                 |                       |                   |       |        |        |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|-----------------|-----------------------|-------------------|-------|--------|--------|
| Report sponsor                         | CSR Building Products Limited.                                                                                                                                                                                                                                                                                               |             |         |                 |                       |                   |       |        |        |
| Test laboratory                        | CSIRO Materials Science and Engineering, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia.                                                                                                                                                                                                        |             |         |                 |                       |                   |       |        |        |
| Test date                              | The reaction to fire test was completed on 13 November 2009.                                                                                                                                                                                                                                                                 |             |         |                 |                       |                   |       |        |        |
| Test standards                         | The test was done in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                     |             |         |                 |                       |                   |       |        |        |
| Variation to test standards            | None                                                                                                                                                                                                                                                                                                                         |             |         |                 |                       |                   |       |        |        |
| General description of tested specimen | <p>Bradford Glasswool Quietel - glass-fibre insulation batt bonded with thermosetting resin.</p> <table> <tr> <th>Description</th><th>Details</th></tr> <tr> <td>Nominal density</td><td>130 kg/m<sup>3</sup></td></tr> <tr> <td>Nominal thickness</td><td>25 mm</td></tr> <tr> <td>Colour</td><td>Yellow</td></tr> </table> | Description | Details | Nominal density | 130 kg/m <sup>3</sup> | Nominal thickness | 25 mm | Colour | Yellow |
| Description                            | Details                                                                                                                                                                                                                                                                                                                      |             |         |                 |                       |                   |       |        |        |
| Nominal density                        | 130 kg/m <sup>3</sup>                                                                                                                                                                                                                                                                                                        |             |         |                 |                       |                   |       |        |        |
| Nominal thickness                      | 25 mm                                                                                                                                                                                                                                                                                                                        |             |         |                 |                       |                   |       |        |        |
| Colour                                 | Yellow                                                                                                                                                                                                                                                                                                                       |             |         |                 |                       |                   |       |        |        |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                   |             |         |                 |                       |                   |       |        |        |

All the test specimens described in sections A.14 to A.16 achieved the same results – see Table 44.

**Table 44 Identical results summary obtained for test reports FNE11527, FNE11655 and FNE9589**

| Performance criteria | Integrity | Time to failure | Position of failure |
|----------------------|-----------|-----------------|---------------------|
| 0                    | 0         | 0               | 1                   |

## A.17 Test report – FNC9595

**Table 45** Information about test report FNC9595

| Item                                   | Information about test report                                                                                                                                                                                                                                                                |             |         |                 |                      |                   |       |        |       |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|-----------------|----------------------|-------------------|-------|--------|-------|
| Report sponsor                         | CSR Building Products Limited.                                                                                                                                                                                                                                                               |             |         |                 |                      |                   |       |        |       |
| Test laboratory                        | CSIRO Materials Science and Engineering, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia.                                                                                                                                                                        |             |         |                 |                      |                   |       |        |       |
| Test date                              | The combustibility test was completed on 10 December 2009.                                                                                                                                                                                                                                   |             |         |                 |                      |                   |       |        |       |
| Test standards                         | The test was done in accordance with AS 1530.1:1994.                                                                                                                                                                                                                                         |             |         |                 |                      |                   |       |        |       |
| Variation to test standards            | None                                                                                                                                                                                                                                                                                         |             |         |                 |                      |                   |       |        |       |
| General description of tested specimen | Bradford Rockwool Fibertex 450 - mineral fibre insulation batt.<br><table> <tr> <th>Description</th><th>Details</th></tr> <tr> <td>Nominal density</td><td>80 kg/m<sup>3</sup></td></tr> <tr> <td>Nominal thickness</td><td>50 mm</td></tr> <tr> <td>Colour</td><td>Brown</td></tr> </table> | Description | Details | Nominal density | 80 kg/m <sup>3</sup> | Nominal thickness | 50 mm | Colour | Brown |
| Description                            | Details                                                                                                                                                                                                                                                                                      |             |         |                 |                      |                   |       |        |       |
| Nominal density                        | 80 kg/m <sup>3</sup>                                                                                                                                                                                                                                                                         |             |         |                 |                      |                   |       |        |       |
| Nominal thickness                      | 50 mm                                                                                                                                                                                                                                                                                        |             |         |                 |                      |                   |       |        |       |
| Colour                                 | Brown                                                                                                                                                                                                                                                                                        |             |         |                 |                      |                   |       |        |       |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS 1530.1:1994.                                                                                                                                                                                                       |             |         |                 |                      |                   |       |        |       |

## A.18 Test report – FNC9596

**Table 46** Information about test report FNC9596

| Item                                   | Information about test report                                                                                                                                                                                                                                                                |             |         |                 |                       |                   |       |        |       |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|-----------------|-----------------------|-------------------|-------|--------|-------|
| Report sponsor                         | CSR Building Products Limited.                                                                                                                                                                                                                                                               |             |         |                 |                       |                   |       |        |       |
| Test laboratory                        | CSIRO Materials Science and Engineering, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia.                                                                                                                                                                        |             |         |                 |                       |                   |       |        |       |
| Test date                              | The combustibility test was completed on 11 December 2009.                                                                                                                                                                                                                                   |             |         |                 |                       |                   |       |        |       |
| Test standards                         | The test was done in accordance with AS 1530.1:1994.                                                                                                                                                                                                                                         |             |         |                 |                       |                   |       |        |       |
| Variation to test standards            | None                                                                                                                                                                                                                                                                                         |             |         |                 |                       |                   |       |        |       |
| General description of tested specimen | Bradford Rockwool Fibertex HD - mineral fibre insulation batt.<br><table> <tr> <th>Description</th><th>Details</th></tr> <tr> <td>Nominal density</td><td>197 kg/m<sup>3</sup></td></tr> <tr> <td>Nominal thickness</td><td>50 mm</td></tr> <tr> <td>Colour</td><td>Brown</td></tr> </table> | Description | Details | Nominal density | 197 kg/m <sup>3</sup> | Nominal thickness | 50 mm | Colour | Brown |
| Description                            | Details                                                                                                                                                                                                                                                                                      |             |         |                 |                       |                   |       |        |       |
| Nominal density                        | 197 kg/m <sup>3</sup>                                                                                                                                                                                                                                                                        |             |         |                 |                       |                   |       |        |       |
| Nominal thickness                      | 50 mm                                                                                                                                                                                                                                                                                        |             |         |                 |                       |                   |       |        |       |
| Colour                                 | Brown                                                                                                                                                                                                                                                                                        |             |         |                 |                       |                   |       |        |       |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS 1530.1:1994.                                                                                                                                                                                                       |             |         |                 |                       |                   |       |        |       |

## A.19 Test report – FNC9693

**Table 47** Information about test report FNC9693

| Item            | Information about test report                                                                                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------------|
| Report sponsor  | CSR Building Products Limited.                                                                                        |
| Test laboratory | CSIRO Materials Science and Engineering, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia. |
| Test date       | The combustibility test was completed on 5 March 2010.                                                                |

| Item                                   | Information about test report                                                                                                                                                                                                                                                                      |             |         |                 |                      |                   |        |        |       |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|-----------------|----------------------|-------------------|--------|--------|-------|
| Test standards                         | The test was done in accordance with AS 1530.1:1994.                                                                                                                                                                                                                                               |             |         |                 |                      |                   |        |        |       |
| Variation to test standards            | None                                                                                                                                                                                                                                                                                               |             |         |                 |                      |                   |        |        |       |
| General description of tested specimen | Bradford Soundscreen Plus 3.0 - rockwool mineral fibre insulation batt. <table> <tr> <th>Description</th><th>Details</th></tr> <tr> <td>Nominal density</td><td>30 kg/m<sup>3</sup></td></tr> <tr> <td>Nominal thickness</td><td>120 mm</td></tr> <tr> <td>Colour</td><td>Brown</td></tr> </table> | Description | Details | Nominal density | 30 kg/m <sup>3</sup> | Nominal thickness | 120 mm | Colour | Brown |
| Description                            | Details                                                                                                                                                                                                                                                                                            |             |         |                 |                      |                   |        |        |       |
| Nominal density                        | 30 kg/m <sup>3</sup>                                                                                                                                                                                                                                                                               |             |         |                 |                      |                   |        |        |       |
| Nominal thickness                      | 120 mm                                                                                                                                                                                                                                                                                             |             |         |                 |                      |                   |        |        |       |
| Colour                                 | Brown                                                                                                                                                                                                                                                                                              |             |         |                 |                      |                   |        |        |       |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS 1530.1:1994.                                                                                                                                                                                                             |             |         |                 |                      |                   |        |        |       |

## A.20 Test report – FNC9770

Table 48 Information about test report FNC9770

| Item                                   | Information about test report                                                                                                                                                                                                                                                                    |             |         |                 |                      |                   |       |        |       |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|-----------------|----------------------|-------------------|-------|--------|-------|
| Report sponsor                         | CSR Building Products Limited.                                                                                                                                                                                                                                                                   |             |         |                 |                      |                   |       |        |       |
| Test laboratory                        | CSIRO Materials Science and Engineering, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia.                                                                                                                                                                            |             |         |                 |                      |                   |       |        |       |
| Test date                              | The combustibility test was completed on 4 May 2010.                                                                                                                                                                                                                                             |             |         |                 |                      |                   |       |        |       |
| Test standards                         | The test was done in accordance with AS 1530.1:1994.                                                                                                                                                                                                                                             |             |         |                 |                      |                   |       |        |       |
| Variation to test standards            | None                                                                                                                                                                                                                                                                                             |             |         |                 |                      |                   |       |        |       |
| General description of tested specimen | Rockwool Granulated Cavity Wall - granulated mineral fibre insulation. <table> <tr> <th>Description</th><th>Details</th></tr> <tr> <td>Nominal density</td><td>20 kg/m<sup>3</sup></td></tr> <tr> <td>Nominal thickness</td><td>50 mm</td></tr> <tr> <td>Colour</td><td>Brown</td></tr> </table> | Description | Details | Nominal density | 20 kg/m <sup>3</sup> | Nominal thickness | 50 mm | Colour | Brown |
| Description                            | Details                                                                                                                                                                                                                                                                                          |             |         |                 |                      |                   |       |        |       |
| Nominal density                        | 20 kg/m <sup>3</sup>                                                                                                                                                                                                                                                                             |             |         |                 |                      |                   |       |        |       |
| Nominal thickness                      | 50 mm                                                                                                                                                                                                                                                                                            |             |         |                 |                      |                   |       |        |       |
| Colour                                 | Brown                                                                                                                                                                                                                                                                                            |             |         |                 |                      |                   |       |        |       |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS 1530.1:1994.                                                                                                                                                                                                           |             |         |                 |                      |                   |       |        |       |

## A.21 Test report – FNC9771

Table 49 Information about test report FNC9771

| Item                                   | Information about test report                                                                                                                                                                             |             |         |                 |                       |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|-----------------|-----------------------|
| Report sponsor                         | CSR Building Products Limited.                                                                                                                                                                            |             |         |                 |                       |
| Test laboratory                        | CSIRO Materials Science and Engineering, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia.                                                                                     |             |         |                 |                       |
| Test date                              | The combustibility test was completed on 4 May 2010.                                                                                                                                                      |             |         |                 |                       |
| Test standards                         | The test was done in accordance with AS 1530.1:1994.                                                                                                                                                      |             |         |                 |                       |
| Variation to test standards            | None                                                                                                                                                                                                      |             |         |                 |                       |
| General description of tested specimen | Rockwool Building Grade Insulation - granulated mineral fibre insulation. <table> <tr> <th>Description</th><th>Details</th></tr> <tr> <td>Nominal density</td><td>100 kg/m<sup>3</sup></td></tr> </table> | Description | Details | Nominal density | 100 kg/m <sup>3</sup> |
| Description                            | Details                                                                                                                                                                                                   |             |         |                 |                       |
| Nominal density                        | 100 kg/m <sup>3</sup>                                                                                                                                                                                     |             |         |                 |                       |

| Item            | Information about test report                                                          |       |
|-----------------|----------------------------------------------------------------------------------------|-------|
|                 | Nominal thickness                                                                      | 50 mm |
|                 | Colour                                                                                 | Brown |
| Instrumentation | The test report states that the instrumentation was in accordance with AS 1530.1:1994. |       |

## A.22 Test report – FNC10324B

Table 50 Information about test report FNC10324B

| Item                                   | Information about test report                                                                                         |                         |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-------------------------|
| Report sponsor                         | CSR Building Products Limited.                                                                                        |                         |
| Test laboratory                        | CSIRO Materials Science and Engineering, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia. |                         |
| Test date                              | The combustibility test was completed on 9 November 2011.                                                             |                         |
| Test standards                         | The test was done in accordance with AS 1530.1:1994.                                                                  |                         |
| Variation to test standards            | None                                                                                                                  |                         |
| General description of tested specimen | CSR Bradford R3.6 Building Blanket - glass-fibre insulation batt.                                                     |                         |
|                                        | <b>Description</b>                                                                                                    | <b>Details</b>          |
|                                        | Nominal density                                                                                                       | 16.85 kg/m <sup>3</sup> |
|                                        | Nominal thickness                                                                                                     | 145 mm                  |
|                                        | Colour                                                                                                                | Yellow                  |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS 1530.1:1994.                                |                         |

## A.23 Test report – FNC0354

Table 51 Information about test report FNC0354

| Item                                   | Information about test report                                                                                         |                      |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------|----------------------|
| Report sponsor                         | CSR Building Products Limited.                                                                                        |                      |
| Test laboratory                        | CSIRO Materials Science and Engineering, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia. |                      |
| Test date                              | The combustibility test was completed on 23 September 2005.                                                           |                      |
| Test standards                         | The test was done in accordance with AS 1530.1:1994.                                                                  |                      |
| Variation to test standards            | None                                                                                                                  |                      |
| General description of tested specimen | Glasswool Partition Batts - acoustic/thermal insulation batt for walls.                                               |                      |
|                                        | <b>Description</b>                                                                                                    | <b>Details</b>       |
|                                        | Nominal density                                                                                                       | 11 kg/m <sup>3</sup> |
|                                        | Nominal thickness                                                                                                     | 50 mm                |
|                                        | Colour                                                                                                                | Gold                 |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS 1530.1:1994.                                |                      |

## A.24 Test report – FNC9594

**Table 52** Information about test report FNC9594

| Item                                   | Information about test report                                                                                                                                                                                                                                                                                                                            |             |         |              |                      |                   |        |        |                      |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|--------------|----------------------|-------------------|--------|--------|----------------------|
| Report sponsor                         | CSR Building Products Limited.                                                                                                                                                                                                                                                                                                                           |             |         |              |                      |                   |        |        |                      |
| Test laboratory                        | CSIRO Materials Science and Engineering, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia.                                                                                                                                                                                                                                    |             |         |              |                      |                   |        |        |                      |
| Test date                              | The combustibility test was completed on 10 December 2009.                                                                                                                                                                                                                                                                                               |             |         |              |                      |                   |        |        |                      |
| Test standards                         | The test was done in accordance with AS 1530.1:1994.                                                                                                                                                                                                                                                                                                     |             |         |              |                      |                   |        |        |                      |
| Variation to test standards            | None                                                                                                                                                                                                                                                                                                                                                     |             |         |              |                      |                   |        |        |                      |
| General description of tested specimen | <p>Bradford Gold Insulation R2.0 Ceiling batts - glass-fibre insulation batt bonded with thermosetting resin.</p> <table> <tr> <th>Description</th><th>Details</th></tr> <tr> <td>Nominal mass</td><td>728 g/m<sup>2</sup></td></tr> <tr> <td>Nominal thickness</td><td>115 mm</td></tr> <tr> <td>Colour</td><td>Light golden yellow.</td></tr> </table> | Description | Details | Nominal mass | 728 g/m <sup>2</sup> | Nominal thickness | 115 mm | Colour | Light golden yellow. |
| Description                            | Details                                                                                                                                                                                                                                                                                                                                                  |             |         |              |                      |                   |        |        |                      |
| Nominal mass                           | 728 g/m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                     |             |         |              |                      |                   |        |        |                      |
| Nominal thickness                      | 115 mm                                                                                                                                                                                                                                                                                                                                                   |             |         |              |                      |                   |        |        |                      |
| Colour                                 | Light golden yellow.                                                                                                                                                                                                                                                                                                                                     |             |         |              |                      |                   |        |        |                      |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS 1530.1:1994.                                                                                                                                                                                                                                                                   |             |         |              |                      |                   |        |        |                      |

## A.25 Test report – FNC9694

**Table 53** Information about test report FNC9694

| Item                                   | Information about test report                                                                                                                                                                                                                                                                                                                                                  |             |         |              |                      |                   |       |        |                      |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|--------------|----------------------|-------------------|-------|--------|----------------------|
| Report sponsor                         | CSR Building Products Limited.                                                                                                                                                                                                                                                                                                                                                 |             |         |              |                      |                   |       |        |                      |
| Test laboratory                        | CSIRO Materials Science and Engineering, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia.                                                                                                                                                                                                                                                          |             |         |              |                      |                   |       |        |                      |
| Test date                              | The combustibility test was completed on 6 March 2010.                                                                                                                                                                                                                                                                                                                         |             |         |              |                      |                   |       |        |                      |
| Test standards                         | The test was done in accordance with AS 1530.1:1994.                                                                                                                                                                                                                                                                                                                           |             |         |              |                      |                   |       |        |                      |
| Variation to test standards            | None                                                                                                                                                                                                                                                                                                                                                                           |             |         |              |                      |                   |       |        |                      |
| General description of tested specimen | <p>Bradford Gold Insulation R1.5 Water-repellent Wall and Floor batts - glass-fibre insulation batt bonded with thermosetting resin.</p> <table> <tr> <th>Description</th><th>Details</th></tr> <tr> <td>Nominal mass</td><td>657 g/m<sup>2</sup></td></tr> <tr> <td>Nominal thickness</td><td>75 mm</td></tr> <tr> <td>Colour</td><td>Light golden yellow.</td></tr> </table> | Description | Details | Nominal mass | 657 g/m <sup>2</sup> | Nominal thickness | 75 mm | Colour | Light golden yellow. |
| Description                            | Details                                                                                                                                                                                                                                                                                                                                                                        |             |         |              |                      |                   |       |        |                      |
| Nominal mass                           | 657 g/m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                           |             |         |              |                      |                   |       |        |                      |
| Nominal thickness                      | 75 mm                                                                                                                                                                                                                                                                                                                                                                          |             |         |              |                      |                   |       |        |                      |
| Colour                                 | Light golden yellow.                                                                                                                                                                                                                                                                                                                                                           |             |         |              |                      |                   |       |        |                      |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS 1530.1:1994.                                                                                                                                                                                                                                                                                         |             |         |              |                      |                   |       |        |                      |

## A.26 Test report – FNC9695A

**Table 54** Information about test report FNC9695A

| Item           | Information about test report  |
|----------------|--------------------------------|
| Report sponsor | CSR Building Products Limited. |

| Item                                   | Information about test report                                                                                                                                                                                                                                                                                                                                              |             |         |              |                       |                   |        |        |                      |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|--------------|-----------------------|-------------------|--------|--------|----------------------|
| Test laboratory                        | CSIRO Materials Science and Engineering, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia.                                                                                                                                                                                                                                                      |             |         |              |                       |                   |        |        |                      |
| Test date                              | The combustibility test was completed on 6 March 2010.                                                                                                                                                                                                                                                                                                                     |             |         |              |                       |                   |        |        |                      |
| Test standards                         | The test was done in accordance with AS 1530.1:1994.                                                                                                                                                                                                                                                                                                                       |             |         |              |                       |                   |        |        |                      |
| Variation to test standards            | None                                                                                                                                                                                                                                                                                                                                                                       |             |         |              |                       |                   |        |        |                      |
| General description of tested specimen | <p>Bradford Gold Insulation R5.0 High Performance Ceiling batts - glass-fibre insulation batt bonded with thermosetting resin.</p> <table> <tr> <th>Description</th><th>Details</th></tr> <tr> <td>Nominal mass</td><td>2800 g/m<sup>2</sup></td></tr> <tr> <td>Nominal thickness</td><td>210 mm</td></tr> <tr> <td>Colour</td><td>Light golden yellow.</td></tr> </table> | Description | Details | Nominal mass | 2800 g/m <sup>2</sup> | Nominal thickness | 210 mm | Colour | Light golden yellow. |
| Description                            | Details                                                                                                                                                                                                                                                                                                                                                                    |             |         |              |                       |                   |        |        |                      |
| Nominal mass                           | 2800 g/m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                      |             |         |              |                       |                   |        |        |                      |
| Nominal thickness                      | 210 mm                                                                                                                                                                                                                                                                                                                                                                     |             |         |              |                       |                   |        |        |                      |
| Colour                                 | Light golden yellow.                                                                                                                                                                                                                                                                                                                                                       |             |         |              |                       |                   |        |        |                      |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS 1530.1:1994.                                                                                                                                                                                                                                                                                     |             |         |              |                       |                   |        |        |                      |

## A.27 Test report – FNC9749

Table 55 Information about test report FNC9749

| Item                                   | Information about test report                                                                                                                                                                                                                                                                                                                     |             |         |                 |                      |                   |       |        |                      |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|-----------------|----------------------|-------------------|-------|--------|----------------------|
| Report sponsor                         | CSR Building Products Limited.                                                                                                                                                                                                                                                                                                                    |             |         |                 |                      |                   |       |        |                      |
| Test laboratory                        | CSIRO Materials Science and Engineering, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia.                                                                                                                                                                                                                             |             |         |                 |                      |                   |       |        |                      |
| Test date                              | The combustibility test was completed on 26 April 2010.                                                                                                                                                                                                                                                                                           |             |         |                 |                      |                   |       |        |                      |
| Test standards                         | The test was done in accordance with AS 1530.1:1994.                                                                                                                                                                                                                                                                                              |             |         |                 |                      |                   |       |        |                      |
| Variation to test standards            | None                                                                                                                                                                                                                                                                                                                                              |             |         |                 |                      |                   |       |        |                      |
| General description of tested specimen | <p>Bradford Glasswool Partition Batts - glass-fibre insulation batt bonded with thermosetting resin.</p> <table> <tr> <th>Description</th><th>Details</th></tr> <tr> <td>Nominal density</td><td>14 kg/m<sup>3</sup></td></tr> <tr> <td>Nominal thickness</td><td>50 mm</td></tr> <tr> <td>Colour</td><td>Light golden yellow.</td></tr> </table> | Description | Details | Nominal density | 14 kg/m <sup>3</sup> | Nominal thickness | 50 mm | Colour | Light golden yellow. |
| Description                            | Details                                                                                                                                                                                                                                                                                                                                           |             |         |                 |                      |                   |       |        |                      |
| Nominal density                        | 14 kg/m <sup>3</sup>                                                                                                                                                                                                                                                                                                                              |             |         |                 |                      |                   |       |        |                      |
| Nominal thickness                      | 50 mm                                                                                                                                                                                                                                                                                                                                             |             |         |                 |                      |                   |       |        |                      |
| Colour                                 | Light golden yellow.                                                                                                                                                                                                                                                                                                                              |             |         |                 |                      |                   |       |        |                      |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS 1530.1:1994.                                                                                                                                                                                                                                                            |             |         |                 |                      |                   |       |        |                      |

## A.28 Test report – NR-15003

Table 56 Information about test report NR-15003

| Item                        | Information about test report                                                                                   |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------|
| Report sponsor              | Marketing Group, CSR Bradford Insulation                                                                        |
| Test laboratory             | CSR Building Products, Insulation Research Laboratory, 376 Victoria Street, Wetherill Park, NSW 2164, Australia |
| Test date                   | The combustibility test was completed on 13-14 May 2015.                                                        |
| Test standards              | The test was done in accordance with AS 1530.1:1994.                                                            |
| Variation to test standards | None                                                                                                            |

| Item                                   | Information about test report                                                          |                      |
|----------------------------------------|----------------------------------------------------------------------------------------|----------------------|
| General description of tested specimen | CSR Fireseal Party Wall Roof Sealer - in the form of tile roof material.               |                      |
|                                        | Description                                                                            | Details              |
|                                        | Nominal density                                                                        | 50 kg/m <sup>3</sup> |
|                                        | Nominal thickness                                                                      | 50 mm                |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS 1530.1:1994. |                      |

## A.29 Test report – NR-15004

Table 57 Information about test report NR-15004

| Item                                   | Information about test report                                                                                   |                      |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------|----------------------|
| Report sponsor                         | Marketing Group, CSR Bradford Insulation                                                                        |                      |
| Test laboratory                        | CSR Building Products, Insulation Research Laboratory, 376 Victoria Street, Wetherill Park, NSW 2164, Australia |                      |
| Test date                              | The combustibility test was completed on 14-15 May 2015.                                                        |                      |
| Test standards                         | The test was done in accordance with AS 1530.1:1994.                                                            |                      |
| Variation to test standards            | None                                                                                                            |                      |
| General description of tested specimen | CSR Fireseal Party Wall Batts                                                                                   |                      |
|                                        | Description                                                                                                     | Details              |
|                                        | Nominal density                                                                                                 | 70 kg/m <sup>3</sup> |
|                                        | Nominal thickness                                                                                               | 100 mm               |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS 1530.1:1994.                          |                      |

## A.30 Test report – NR-15005

Table 58 Information about test report NR-15005

| Item                                   | Information about test report                                                                                   |                       |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------|
| Report sponsor                         | Marketing Group, CSR Bradford Insulation                                                                        |                       |
| Test laboratory                        | CSR Building Products, Insulation Research Laboratory, 376 Victoria Street, Wetherill Park, NSW 2164, Australia |                       |
| Test date                              | The combustibility test was completed on 3-9 July 2015.                                                         |                       |
| Test standards                         | The test was done in accordance with AS 1530.1:1994.                                                            |                       |
| Variation to test standards            | None                                                                                                            |                       |
| General description of tested specimen | CSR Rockwool Fibertex 820 board.                                                                                |                       |
|                                        | Two layers of insulation sandwiched to make 50 mm thickness.                                                    |                       |
|                                        | DescriptionDetails                                                                                              |                       |
|                                        | Nominal density                                                                                                 | 110 kg/m <sup>3</sup> |
|                                        | Nominal thickness                                                                                               | 25 mm                 |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS 1530.1:1994.                          |                       |

## A.31 Test report – NR-15006

**Table 59** Information about test report NR-15006

| Item                                   | Information about test report                                                                                                                                                                                                                                                                         |             |         |                 |                                                                      |                   |       |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|-----------------|----------------------------------------------------------------------|-------------------|-------|
| Report sponsor                         | Marketing Group, CSR Bradford Insulation                                                                                                                                                                                                                                                              |             |         |                 |                                                                      |                   |       |
| Test laboratory                        | CSR Building Products, Insulation Research Laboratory, 376 Victoria Street, Wetherill Park, NSW 2164, Australia                                                                                                                                                                                       |             |         |                 |                                                                      |                   |       |
| Test date                              | The combustibility test was completed on 7-9 July 2015.                                                                                                                                                                                                                                               |             |         |                 |                                                                      |                   |       |
| Test standards                         | The test was done in accordance with AS 1530.1:1994.                                                                                                                                                                                                                                                  |             |         |                 |                                                                      |                   |       |
| Variation to test standards            | None                                                                                                                                                                                                                                                                                                  |             |         |                 |                                                                      |                   |       |
| General description of tested specimen | <div>CSR Bradford New Generation SoundScreen R2.0 Floor Batts.</div> <table> <tr> <th>Description</th><th>Details</th></tr> <tr> <td>Nominal density</td><td>25.7 kg/m<sup>3</sup> (measured) / 26.8 kg/m<sup>3</sup> (nominal)</td></tr> <tr> <td>Nominal thickness</td><td>70 mm</td></tr> </table> | Description | Details | Nominal density | 25.7 kg/m <sup>3</sup> (measured) / 26.8 kg/m <sup>3</sup> (nominal) | Nominal thickness | 70 mm |
| Description                            | Details                                                                                                                                                                                                                                                                                               |             |         |                 |                                                                      |                   |       |
| Nominal density                        | 25.7 kg/m <sup>3</sup> (measured) / 26.8 kg/m <sup>3</sup> (nominal)                                                                                                                                                                                                                                  |             |         |                 |                                                                      |                   |       |
| Nominal thickness                      | 70 mm                                                                                                                                                                                                                                                                                                 |             |         |                 |                                                                      |                   |       |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS 1530.1:1994.                                                                                                                                                                                                                |             |         |                 |                                                                      |                   |       |

## A.32 Test report – NR-15007

**Table 60** Information about test report NR-15007

| Item                                   | Information about test report                                                                                                                                                             |             |         |                 |                       |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|-----------------|-----------------------|
| Report sponsor                         | Marketing Group, CSR Bradford Insulation                                                                                                                                                  |             |         |                 |                       |
| Test laboratory                        | CSR Building Products, Insulation Research Laboratory, 376 Victoria Street, Wetherill Park, NSW 2164, Australia                                                                           |             |         |                 |                       |
| Test date                              | The combustibility test was completed on 8-10 September 2015.                                                                                                                             |             |         |                 |                       |
| Test standards                         | The test was done in accordance with AS 1530.1:1994.                                                                                                                                      |             |         |                 |                       |
| Variation to test standards            | None                                                                                                                                                                                      |             |         |                 |                       |
| General description of tested specimen | <div>Bradford Rockwool Granulated Industrial (502).</div> <table> <tr> <th>Description</th><th>Details</th></tr> <tr> <td>Nominal density</td><td>200 kg/m<sup>3</sup></td></tr> </table> | Description | Details | Nominal density | 200 kg/m <sup>3</sup> |
| Description                            | Details                                                                                                                                                                                   |             |         |                 |                       |
| Nominal density                        | 200 kg/m <sup>3</sup>                                                                                                                                                                     |             |         |                 |                       |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS 1530.1:1994.                                                                                                    |             |         |                 |                       |

All the test specimens described in sections A.17 to A.32 achieved the same results – see Table 61.

**Table 61** Identical results summary obtained for test reports B.17 to B.32

| Mean duration of sustained flaming (seconds) | Designation            |
|----------------------------------------------|------------------------|
| 0                                            | Not deemed combustible |

### A.33 Test report – 18-000736

**Table 62 Information about test report 18-00736**

| Item                                   | Information about test report                                                                           |                 |
|----------------------------------------|---------------------------------------------------------------------------------------------------------|-----------------|
| Report sponsor                         | CSR Bradford Pty Ltd                                                                                    |                 |
| Test laboratory                        | AWTA Product Testing, 1 <sup>st</sup> Floor, 191 Racecourse Road, Flemington, Victoria 3051, Australia. |                 |
| Test date                              | The reaction to fire test was completed on 20 February 2018.                                            |                 |
| Test standards                         | The test was done in accordance with AS/NZS 1530.3:1999.                                                |                 |
| Variation to test standards            | None                                                                                                    |                 |
| General description of tested specimen | Heavy Duty Sarking 753 - reflective sarking wrap with anti-glare.                                       |                 |
|                                        | DescriptionDetails                                                                                      |                 |
|                                        | Colours                                                                                                 | Foil/Anti-glare |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS/NZS 1530.3:1999.              |                 |

### A.34 Test report – FNE12504

**Table 63 Information about test report FNE12504**

| Item                                   | Information about test report                                                                                                                                                                                                                                      |                             |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| Report sponsor                         | CSR Building Products Limited.                                                                                                                                                                                                                                     |                             |
| Test laboratory                        | CSIRO Infrastructure Technologies, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia.                                                                                                                                                    |                             |
| Test date                              | The reaction to fire test was completed on 3 December 2019.                                                                                                                                                                                                        |                             |
| Test standards                         | The test was done in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                           |                             |
| Variation to test standards            | None.                                                                                                                                                                                                                                                              |                             |
| General description of tested specimen | CSR 60 mm Bradford Black Roofing Blanket (glasswool) faced with Thermoseal 729 LD foil on exposed side. Foil facing adhered to insulation using water based Bostik adhesive (clarified to be Rapidset 4725 by CSR) at an application rate of 18 g/m <sup>2</sup> . |                             |
|                                        | Description                                                                                                                                                                                                                                                        | Details                     |
|                                        | Nominal thickness of foil                                                                                                                                                                                                                                          | < 1 mm                      |
|                                        | Nominal thickness of glasswool                                                                                                                                                                                                                                     | 60 mm                       |
|                                        | Nominal total thickness                                                                                                                                                                                                                                            | 61 mm                       |
|                                        | Nominal mass                                                                                                                                                                                                                                                       | 773 g/m <sup>2</sup>        |
|                                        | Colour                                                                                                                                                                                                                                                             | Silver (face), white (back) |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                         |                             |

The test specimens described in sections A.33 and A.34 achieved the same results – see Table 64.

**Table 64 Identical results summary obtained for test reports 18-000736 and FNE12504**

| Ignitability Index (0-20) | Spread of Flame Index (0-10) | Heat Evolved Index (0-10) | Smoke Development Index (0-10) |
|---------------------------|------------------------------|---------------------------|--------------------------------|
| 0                         | 0                            | 0                         | 1                              |

## A.35 Test report – FNE12465A

**Table 65** Information about test report FNE12465A

| Item                                   | Information about test report                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |         |                           |        |                                |       |                         |       |              |                       |        |                              |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|---------------------------|--------|--------------------------------|-------|-------------------------|-------|--------------|-----------------------|--------|------------------------------|
| Report sponsor                         | CSR Building Products Limited.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |         |                           |        |                                |       |                         |       |              |                       |        |                              |
| Test laboratory                        | CSIRO Infrastructure Technologies, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |         |                           |        |                                |       |                         |       |              |                       |        |                              |
| Test date                              | The fire hazard property test was completed on 10 December 2019.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |         |                           |        |                                |       |                         |       |              |                       |        |                              |
| Test standards                         | The test was done in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |         |                           |        |                                |       |                         |       |              |                       |        |                              |
| Variation to test standards            | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |         |                           |        |                                |       |                         |       |              |                       |        |                              |
| General description of tested specimen | <p>CSR Bradford 50 mm Supertel Board Faced with Thermoseal 750 HD Perf foil on one side.</p> <p>Glasswool insulation board consisted of a double sided reflective perforated foil with 2.4 mm apertures adhered to glass wool insulation using Bostik ADH (clarified to be HT by CSR) at an application rate of 16 g/m<sup>2</sup>.</p> <table border="1"> <thead> <tr> <th>Description</th><th>Details</th></tr> </thead> <tbody> <tr> <td>Nominal thickness of foil</td><td>≤ 1 mm</td></tr> <tr> <td>Nominal thickness of glasswool</td><td>50 mm</td></tr> <tr> <td>Nominal total thickness</td><td>51 mm</td></tr> <tr> <td>Nominal mass</td><td>1983 g/m<sup>2</sup></td></tr> <tr> <td>Colour</td><td>Silver (face), yellow (back)</td></tr> </tbody> </table> | Description | Details | Nominal thickness of foil | ≤ 1 mm | Nominal thickness of glasswool | 50 mm | Nominal total thickness | 51 mm | Nominal mass | 1983 g/m <sup>2</sup> | Colour | Silver (face), yellow (back) |
| Description                            | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |         |                           |        |                                |       |                         |       |              |                       |        |                              |
| Nominal thickness of foil              | ≤ 1 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |         |                           |        |                                |       |                         |       |              |                       |        |                              |
| Nominal thickness of glasswool         | 50 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |         |                           |        |                                |       |                         |       |              |                       |        |                              |
| Nominal total thickness                | 51 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |         |                           |        |                                |       |                         |       |              |                       |        |                              |
| Nominal mass                           | 1983 g/m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |         |                           |        |                                |       |                         |       |              |                       |        |                              |
| Colour                                 | Silver (face), yellow (back)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |         |                           |        |                                |       |                         |       |              |                       |        |                              |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |         |                           |        |                                |       |                         |       |              |                       |        |                              |

The test specimen achieved the following results – see Table 66.

**Table 66** Results summary for this test report

| Ignitability Index (0-20) | Spread of Flame Index (0-10) | Heat Evolved Index (0-10) | Smoke Development Index (0-10) |
|---------------------------|------------------------------|---------------------------|--------------------------------|
| 0                         | 0                            | 0                         | 3                              |

## A.36 Test report – FNE12565

**Table 67** Information about test report FNE12565

| Item                                   | Information about test report                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Report sponsor                         | CSR Building Products Limited.                                                                                                                                                                                                                                                                                                                                |
| Test laboratory                        | CSIRO Infrastructure Technologies, 14 Julius Avenue, Riverside Corporate Park, North Ryde, NSW 2113, Australia.                                                                                                                                                                                                                                               |
| Test date                              | The fire hazard property test was completed on 4 March 2020.                                                                                                                                                                                                                                                                                                  |
| Test standards                         | The test was done in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                                                      |
| Variation to test standards            | None                                                                                                                                                                                                                                                                                                                                                          |
| General description of tested specimen | <p>CSR Bradford 50 mm Supertel Board Faced with Thermoseal 750 HD Perf foil on one side.</p> <p>Double sided perforated foil with 2.4 mm apertures with a 9% open area bonded to glasswool made of glass fibres and a phenolic resin binder. Adhesion of the layers using Siegel Perma-Lok 800 glue applied at an application rate of 16 g/m<sup>2</sup>.</p> |

| Item            | Information about test report                                                              |                                          |
|-----------------|--------------------------------------------------------------------------------------------|------------------------------------------|
|                 | Description                                                                                | Details                                  |
|                 | Nominal thickness of foil                                                                  | < 1 mm                                   |
|                 | Nominal thickness of glasswool                                                             | 50 mm                                    |
|                 | Nominal thickness                                                                          | 50 mm                                    |
|                 | Nominal mass                                                                               | 1.983 kg/m <sup>2</sup>                  |
|                 | Colour                                                                                     | Silver (foil), golden yellow (glasswool) |
| Instrumentation | The test report states that the instrumentation was in accordance with AS/NZS 1530.3:1999. |                                          |

The test specimen achieved the following results – see Table 68.

**Table 68 Results summary for this test report**

| Ignitability Index (0-20) | Spread of Flame Index (0-10) | Heat Evolved Index (0-10) | Smoke Development Index (0-10) |
|---------------------------|------------------------------|---------------------------|--------------------------------|
| 0                         | 0                            | 0                         | 2                              |

## A.37 Test report – 20-006531

**Table 69 Information about test report 20-006531**

| Item                                   | Information about test report                                                                                                                                                                                                               |                          |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| Report sponsor                         | CSR Building Products Ltd.                                                                                                                                                                                                                  |                          |
| Test laboratory                        | AWTA Product Testing, 1 <sup>st</sup> Floor, 191 Racecourse Road, Flemington, Victoria 3051, Australia.                                                                                                                                     |                          |
| Test date                              | The fire hazard property test was completed on 8 January 2021.                                                                                                                                                                              |                          |
| Test standards                         | The test was done in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                    |                          |
| Variation to test standards            | None                                                                                                                                                                                                                                        |                          |
| General description of tested specimen | Supertel with Heavy Duty Foil Perforated and PET facing.                                                                                                                                                                                    |                          |
|                                        | Foil faced insulation batts consisted of glasswool insulation, laminated foil and paper facing with polymer overlay. Siegel solvent based adhesive (Clarified to be Perma-lok 800 by CSR) was used to glue fix the facing to the substrate. |                          |
|                                        | Description                                                                                                                                                                                                                                 | Details                  |
|                                        | Nominal thickness                                                                                                                                                                                                                           | 50 mm                    |
|                                        | Nominal mass per unit area/density                                                                                                                                                                                                          | 38 g/m <sup>2</sup>      |
|                                        | Colour                                                                                                                                                                                                                                      | Silver face, yellow batt |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS/NZS 1530.3:1999.                                                                                                                                                  |                          |

The test specimen achieved the following results – see Table 70.

**Table 70 Results summary for this test report**

| Ignitability Index (0-20) | Spread of Flame Index (0-10) | Heat Evolved Index (0-10) | Smoke Development Index (0-10) |
|---------------------------|------------------------------|---------------------------|--------------------------------|
| 17                        | 0                            | 2                         | 5                              |

## A.38 Test report – 21-000496

**Table 71 Information about test report 21-000496**

| Item                                   | Information about test report                                                                                                                                                                                                                                                                                                                                   |             |         |                   |        |        |                                |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|-------------------|--------|--------|--------------------------------|
| Report sponsor                         | CSR Building Products Ltd.                                                                                                                                                                                                                                                                                                                                      |             |         |                   |        |        |                                |
| Test laboratory                        | AWTA Product Testing, 1 <sup>st</sup> Floor, 191 Racecourse Road, Flemington, Victoria 3051, Australia.                                                                                                                                                                                                                                                         |             |         |                   |        |        |                                |
| Test date                              | The fire hazard property test was completed on 12 February 2021.                                                                                                                                                                                                                                                                                                |             |         |                   |        |        |                                |
| Test standards                         | The test was done in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                                                        |             |         |                   |        |        |                                |
| Variation to test standards            | None                                                                                                                                                                                                                                                                                                                                                            |             |         |                   |        |        |                                |
| General description of tested specimen | <p>Building blanket with Thermoplast 993 Black Facing.<br/>Glasswool insulation batt with separate laminated paper and decorative black facing laid separately on top.</p> <table> <tr> <th>Description</th><th>Details</th></tr> <tr> <td>Nominal thickness</td><td>110 mm</td></tr> <tr> <td>Colour</td><td>Black facing, yellow glasswool</td></tr> </table> | Description | Details | Nominal thickness | 110 mm | Colour | Black facing, yellow glasswool |
| Description                            | Details                                                                                                                                                                                                                                                                                                                                                         |             |         |                   |        |        |                                |
| Nominal thickness                      | 110 mm                                                                                                                                                                                                                                                                                                                                                          |             |         |                   |        |        |                                |
| Colour                                 | Black facing, yellow glasswool                                                                                                                                                                                                                                                                                                                                  |             |         |                   |        |        |                                |
| Instrumentation                        | The test report states that the instrumentation was in accordance with AS/NZS 1530.3:1999.                                                                                                                                                                                                                                                                      |             |         |                   |        |        |                                |

The test specimen achieved the following results – see Table 72.

**Table 72 Results summary for this test report**

| Ignitability Index (0-20) | Spread of Flame Index (0-10) | Heat Evolved Index (0-10) | Smoke Development Index (0-10) |
|---------------------------|------------------------------|---------------------------|--------------------------------|
| 0                         | 0                            | 0                         | 3                              |

## Appendix B Trade names of various insulation products

Each of the insulation products listed in Table 73 and Table 74 must conform to the density and binder content limits prescribed in the same tables. Their facing options and facing adhesive options must be as identified in this assessment under Table 1.

**Table 73 CSR Bradford glass-fibre insulation products used in proposed systems**

| Product                                                       | Density                     | Thermosetting resin binder content |
|---------------------------------------------------------------|-----------------------------|------------------------------------|
| Bradford Gold and Gold HP                                     | Up to 130 kg/m <sup>3</sup> | Up to 13% by mass                  |
| Bradford Optimo                                               |                             |                                    |
| Bradford Soundscreen                                          |                             |                                    |
| Bradford Acoustigard                                          |                             |                                    |
| Bradford Anticon, Anticon Antiglare, Anticon HP, Anticon Tuff |                             |                                    |
| Bradford Glasswool Building Blanket                           |                             |                                    |
| Bradford Ceiling Panel Overlays                               |                             |                                    |
| Bradford Multitel BAL                                         |                             |                                    |
| Bradford Multitel                                             |                             |                                    |
| Bradford Flexitel                                             |                             |                                    |
| Bradford Supertel                                             |                             |                                    |
| Bradford HT Thermatel                                         |                             |                                    |
| Bradford Ultratel                                             |                             |                                    |
| Bradford Quietel                                              |                             |                                    |
| Bradford Specitel                                             |                             |                                    |

**Table 74 CSR Bradford mineral- fibre insulation products used in proposed systems**

| Product                              | Density (kg/m <sup>3</sup> ) | Thermosetting resin binder content |
|--------------------------------------|------------------------------|------------------------------------|
| Bradford Fireseal Party Wall Batts   | Up to 110 kg/m <sup>3</sup>  | Up to 3.4% by mass                 |
| Bradford Fireseal Party Wall Sealer  |                              |                                    |
| Bradford Fibertex 350, 450, 650, 820 |                              |                                    |

# warringtonfire

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Warringtonfire Australia Pty Ltd  
ABN 81 050 241 524

#### Perth

Unit 22, 22 Railway Road  
Subiaco WA 6008  
Australia  
T: +61 8 9382 3844

#### Canberra

Unit 10, 71 Leichhardt Street  
Kingston ACT 2604  
Australia  
T: +61 2 6260 8488

#### Melbourne

Level 9, 401 Collins Street  
Melbourne VIC 3000  
Australia  
T: +61 3 9767 1000

#### Sydney

Suite 802, Level 8, 383 Kent Street  
Sydney NSW 2000  
Australia  
T: +61 2 9211 4333

#### Brisbane

Suite 6, Level 12, 133 Mary Street  
Brisbane QLD 4000  
Australia  
T: +61 7 3238 1700

#### Melbourne – NATA accredited laboratory

409-411 Hammond Road  
Dandenong South VIC 3175  
Australia  
T: +61 3 9767 1000

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