INSTALLATION CERTIFICATE

AW EDWARDS

LAKE CATHIE PUBLIC SCHOOL UPGRADE

Site Deta	ails:				
Project N	ame:	Lake Cathie Public	School Upgra	ade	
Address: Lot 10 [DP 1210904] 1240 Oce		4] 1240 Ocea	n Drive Lake Cathie NSW	2445	
Descripti Work:	on of	External Wall Sys	tem		
Handove	r Stage	Block C			
State of S	Significant D	Development:			
Application No.	on SSD	9491		Consent authority:	Minister for Planning and Public Spaces
Pursuant to	the provisio	ons of			
- The - The - Cla	e Environme e Environme ause A2.2 of	ent Planning and Ass ent Planning and Ass the Building Code of	essment Act 1 essment Regi f Australia:	1979 Section 4.38, ulations 2000 and	
I	Craig McIIv (name)	een	of	AW Edwards (company)	5
hereby cert above build accordance	ify that the fo ding/develop e with:-	ollowing components oment and they hav	s of the works re been inspe	have been / implemented ected and assessed (whe	/ constructed in the ere appropriate) in
a)	External W	all Construction		Products and Systems U external walls including fi with the requirements of provisions of the Building Amendment 1C1.9 Non-o	sed in the construction of inishes and claddings comply the NCC BCA Deemed to satisfy Code of Australia 2016 combustible building elements.
				Products are as specified	d on page 2 of this certification.
b)					
c)					
d)					
e)					
Exclusions:		Yes or <mark>No</mark>			
	ing exclusion	····			

I certify that I am an appropriately qualified and competent person practicing in the relevant area of work. I have recognised relevant experience in the area of work being certified. I am / my employer is

INSTALLATION CERTIFICATE

LAKE CATHIE PUBLIC SCHOOL UPGRADE

holding appropriate current professional indemnity insurance to the satisfaction of the building owner or the principal authorising the design work being certified.

AW EDWARDS

Name:	Craig McIlveen	Position	Project Manager
Company Name:	AW Edwards	ABN No:	76 000 045 849
Company Address:	6/35 Merrigal Road Port Macquarie NSW 2444	Tel:	0403 611 161
Signature:	Dul	Date:	10/03/2021

Note: Attach any supporting documentation.

External Wall Makeup

Wall Element	Details	Reference
Framing	Bluescope Truecore Steel	Refer to specification sheet
Masonry Facade	Austral Honed Pewter Block	Refer to Tech Data Sheet
Cladding Facade	Lysaght Custom Orb Metal Cladding	Refer to tech data sheet
Sarking	Kingspan Aircell Insulbreak	Refer to Tech Data Sheet
Flooring	Concrete Slab Construction	

Coated Steel – Metallic

Data Sheet

August 2019. This literature supersedes all previous issues

TRUECORE® steel with Activate® technology G550



General Description

TRUECORE® steel G550 with Activate® technology is a hot- dipped aluminium / zinc / magnesium alloy coated structural steel with a guaranteed minimum yield strength of 550MPa, manufactured using a blue tinted resin. It is specifically designed for the residential house framing market.

Typical uses Structural residential house framing. Australian and International Standards AS/NZS 1365:1996 AS 1397:2011 ISO 9001:2015 Quality System certified

Guaranteed properties of steel base

Mechanical properties	Guaranteed minimum
Yield Strength, MPa (longitudinal tensile)	550
Tensile Strength, MPa (longitudinal tensile)	550
Elongation on 80mm (≥ 0.60mm), %	2

Chemical composition of steel base

Chemical properties	Guaranteed maximum %
Carbon - C	0.20
Manganese - Mn	1.20
Phosphorus - P	0.040
Sulphur - S	0.030

Metal coating adhesion - 180° bend test

Coating class	Result
AM150	2t

Where t = the diameter of mandrel in terms of thickness of product.

Dimensional capabilities

Thickness range (mm)	Max Width (mm)
0.42 – 1.00	1220

Notes: Not every combination of thickness and width may be available. Supply conditions may be subject to dimensional restrictions and are subject to BlueScope Sales and Marketing confirmation. Slitting and shearing available on request from BlueScope Sales Offices. For requirements outside the standard product range please contact your local Sales Office.

Resistance to fire

Test & Evaluation Methods	Range	Result
Simultaneous determination of ignitability, flame	Ignitability Index (0 – 20)	0
propagation, heat release and smoke release (AS/NZS 1530.3:1999)	Spread of Flame Index (0 – 10)	0
	Heat Evolved Index (0 – 10)	0
	Smoke Developed Index (0 – 10)	1
NCC non-combustible material concessions (NCC 2019; AS/NZS 1530.3:1999)	National Construction Code, Building Code of Australia 2019; Volume 1: Part C1.9.e, and Volume 2: Part 3.7.1.1.e	May be used wherever a non-combustible material is required
	AS/NZS 1530.3:1999	
Combustibility test for materials (steel substrate) (AS 1530.1-1994)	AS 1530.1-1994	Not deemed combustible (steel substrate)

Supply conditions

Attribute	Normal	Optional
Coating Class	AM150	-
Surface Condition	Spangled	-
Surface Treatment	Passivated & Resin coated	-
Branding	Branded	-
Tolerance - Dimensions	Class A	Class B
Tolerance - Flatness	Class A	-

Important Notes: Optional supply conditions may be subject to dimensional restrictions

Fabricating performance

Method	Rating
Bending	1
Drawing	NR
Pressing	NR
Roll Forming	3
Lock Forming	NR
Welding (design must allow for some strength reduction near welds)	4
Painting Pre-treatment	NR

Where: 1 = Limited to 5 = Excellent or NR = Not Recommended

The ratings in this table are general indicators only, given as a guide to fabricating performance.

Important information

Material should be used promptly (within six months) to avoid the possibility of a storage related corrosion. For selection of the most appropriate metallic coated steel, please refer to technical bulletins TB1a, TB1b, CTB21 and CTB22. For storage, rollforming lubricants and other information please refer to the Technical Bulletins.



truecore.com.au steel.com.au

To learn more about this product

1800 738 576 steeldirect@bluescopesteel.com

For more information contact Steel Direct





The information contained in this datasheet is provided by way of general information about this product only, and has not been prepared with your specific needs in mind. We recommend that you seek BlueScope Steel Limited's advice as to the suitability of this product for the purpose(s) for which you propose to use it. To contact BlueScope Steel Limited for advice about your proposed use of this product, please contact Steel Direct. TRUECORE®, Activate®, BlueScope and the BlueScope brand mark are registered trade marks of BlueScope Steel Limited. © 2019 BlueScope Steel Limited ABN 16 000 011 058. All rights reserved.





Produ	Diagram	ı	
range name	GB HONED		
finish	HONED	-	
colours	PORCELAIN NICKEL PEWTER LIMESTONE PEBBLE		
product code description	10.01 STANDARD		
Properties a	nd Specifications		
nominal dimensions (length x width x height mm)	400 x 100 x 200mm	-	
actual dimensions (length x width x height mm)	390 x 90 x 190mm		
core volume (% overall thickness)	<30		
characteristic unconfined compressive strength (MPa)	>15	_	
minimum shell thickness (mm)	25	Fire Resistance I	evels^
average weight (KG)	11		
units per tonne	90	structural adaquacy (see notes)	60 to 240
number per pallet	180	integrity	60
number per sqm/lm	12.5	insulation	60
durability class (to A\$4456.10 - sodium sulphate and sodium chloride)	EXPOSURE GRADE	- Notes	
wall mass inc mortar hollow	150	 Maximum slenderness ratio (srf) unreinforced maso from AS3700:2018 Table 6.1 is: 	
wall mass inc grouted solid	-	- 18.0 at 60 minutes 17.0 at 90 minutes	
Light Reflectance Value	-	- 16.0 at 120 minutes 15.5 at 180 min	utes 15.5 at 240 minutes

This data represents average results from production lots based on the results achieved by samples selected at random for testing. Figures are accurate at date of publication and subject to change without notice. Contact us for confirmation of product specification. Tested as per AS/NZS 4455.1: 2008 and 4456: 2003. Fire resistance levels as per AS3700: 2018. Acoustic opinion derived from Day Design Pty Ltd. 2012. Tested in accordance with AS 1191:1001 and AS/NZS 1276.1:1999.



TECHNICAL DATASHEET

Revision level C

Enviroseal ProctorWrap Commercial Wall (CW)

VAPOUR PERMEABLE MEMBRANE

Enviroseal[™] ProctorWrap[™] Commercial Wall (CW) is a light duty^{*} vapour permeable wall wrap designed for use with timber and steel frame commercial wall constructions.

PRODUCT DESCRIPTION

Enviroseal[™] ProctorWrap[™] CW is a triple layer polyolefin non-woven textile. The high water vapour permeability of Enviroseal[™] ProctorWrap[™] CW allows for the controlled escape of vapour from within the building whilst restricting the ingress of liquid moisture, thus helping to protect the building fabric and insulation from condensation and related problems such as mould, timber rot, corrosion and loss of thermal resistance.

For applications requiring taping, Commercial Wall with Integrated Tape (CW-IT) is recommended as it is supplied with integrated tape along each edge of the membrane and eliminates the need for separate rolls of tape.

KEY BENEFITS

- o High water resistance
- o Highly vapour permeable
- Air-tight (in combination with taping or use of CW-IT)

STANDARD SIZES & PACKAGING

NAME	WIDTH (mm)	LENGTH (m)	m ² PER ROLL	WEIGHT PER ROLL	ROLLS PER PALLET	PRODUCT CODE
CW	1500mm	50m	75m ²	10.7kg	35	114175
CW-IT	1500mm	50m	75m ²	10.8kg	35	134863

ENVIROSEAL[™] PROCTORWRAP[™] TAPE RANGE

When required to secure, join or seal Enviroseal[™] ProctorWrap[™] CW it is recommended to use the following Enviroseal ProctorWrap accessory products in each of these applications.

APPLICATION	PRODUCT	WIDTH	LENGTH	ITEMS PER CARTON	PRODUCT CODE
Sealing joins	ProctorWrap™ HighTack Tape	50 mm	25m	36	136953
Sealing around penetrations	ProctorWrap™ SLS Flexi	60 mm	5m	10	117688

APPLICATIONS

Enviroseal[™] ProctorWrap[™] CW is a highly vapour permeable, light duty^{*} wall wrap for use in timber and steel frame wall construction. It is tear resistant making it easy to handle during installation.

In combination with taping overlaps, Enviroseal[™] ProctorWrap[™] CW can help form an air tight wrap for the building, reducing the loss of conditioned air from the building thus improving the energy efficiency of the building envelope.

It is good practice for Enviroseal[™] ProctorWrap[™] CW to be separated from the exterior cladding by a cavity to allow for the drainage of any moisture that has penetrated the exterior cladding or condensation that may form on the rear face of the cladding.

Adequate provision for the drainage, absorption or diffusion of moisture is required exterior to the membrane to ensure that moisture is not left trapped between the Enviroseal[™] ProctorWrap[™] CW and the external cladding. This is especially important for vapour tight or non absorbent claddings such as steel. Care should be taken when installing insulation so that this does not restrict drainage within the cavity.

- Soft facings reduce flapping noise
- o Non-perforated
- Light weight and easy to handle



Enviroseal ProctorWrap CW

CLASSIFICATIONS

CRITERIA	REFERENCE	RESULT
Duty Classification	Table 1 AS/NZS 4200.1:1994	Light*
Vapour Permeability	ASTM E96	4.2µg/N.s
Vapour Resistance	ASTM E96	0.24MN.s/g
Vapour Barrier Classification	ASTM E96	Low
Emittance	AS/NZS 4201.5	Non-reflective
Water Barrier	AS/NZS 4201.4	High
Absorbency	AS/NZS 4201.6	Unclassified
Resistance to Dry De-Lamination	AS/NZ 4201.1	Pass
Resistance to Wet De-Lamination	AS/NZ 4201.2	Pass
Shrinkage	AS/NZ 4201.3	<0.5%
Tensile Strength	AS 1301.448	
 Machine Direction (k/Nm) 		6.1 kN / m
 Lateral Direction (k/Nm) 		3.6 kN / m
Edge Tear Resistance	TAPPI T470	
 Machine Direction (N) 		295 N
 Lateral Direction (N) 		175 N
Burst Strength		>200 N
Flammability Index	AS/NZ 1530 Part 2	≤ 5
Allowable UV exposure prior to completion of cladding		2 months

*Bradford Enviroseal[™] ProctorWrap[™] CW is classified as light duty in accordance with the value specified for bursting strength and therefore does not meet the deemed-to-satify provisions for use in roof applications.

DURABILITY

Although Enviroseal[™] ProctorWrap[™] CW can be used as temporary protection during construction, it can not be used as a primary waterproofing membrane. The product may be damaged by careless handling, high winds or vandalism, and should not be left uncovered for longer than is absolutely necessary. Any damaged areas should be replaced before completion.

Ensure that Enviroseal[™] ProctorWrap[™] CW is covered up by the primary cladding as soon as possible, and not left exposed to UV for longer than 2 months. Enviroseal[™] ProctorWrap[™] CW-IT is not to be used in open joint rain screen cladding installations where it could be exposed to long term UV radiation. For advice on such applications where Enviroseal[™] ProctorWrap[™] Plack Label may be suitable please contact CSR Bradford.

SAMPLE SPECIFICATION

Sarking should be CSR Bradford Enviroseal[™] ProctorWrap[™] Commercial Wall (CW) vapour permeable membrane, tested to AS/NZS4200.1, secured directly to the outside of the wall frame at maximum 300mm spacing and in accordance with product user guide.





CSR Bradford Locked Bag 1345 North Ryde BC NSW 1670 csrbradford.com.au Email: bradfordenquiries@csr.com.au

SCSR Bradford is a business division of CSR Building Products Limited ABN 55 008 631 356

For further information call **1300 850 305** or visit **bradfordinsulation.com.au**

The contents of this brochure are copyright protected and may not be reproduced in any form without prior written consent of CSR Bradford. Recommendations and advice regarding the use of the products described in this brochure are to be taken as a guide only, and are given without liability on the part of the are company or its employees. We reserve the right to change product specifications without prior notification, please refer to the CSR Bradford website for the latest revision of this document. The purchaser should independently determine the suitability of the product for the intended use and application.



PAB08



LYSAGHT PRODUCT ADVISORY BULLETIN

FEBRUARY 2020 | REV 03 | This version supersedes all previous issues.

FLAMMABILITY OF LYSAGHT® STEEL PRODUCTS

SCOPE

Flammability of LYSAGHT[®] steel building products including roofing, walling, structural and rainwater goods manufactured from COLORBOND[®] steel, ZINCALUME[®] steel or galvanised steel from BlueScope.

THE LYSAGHT[®] STANDARD ROOFING RANGE*

CUSTOM ORB®	CUSTOM ORB ACCENT 21®	CUSTOM ORB ACCENT 35®	FLATDEK®	FLATDEK® II
KLIP-LOK® 406	KLIP-LOK 700 HI-STRENGTH®	KLIP-LOK CLASSIC® 700	SPANDEK®	

THE LYSAGHT ZENITH[™] ROOFING RANGE*



*Not all products available in all regions. Please check product availability on www.lysaght.com or with your nearest Lysaght branch.

CONTEXT

Fire performance is a common query about the LYSAGHT® range of steel building products. The data presented in this bulletin has been compiled to provide designer's, builder's, installers, and users basic information on the fire resistance properties of LYSAGHT® steel products.

AUSTRALIAN NATIONAL CONSTRUCTION CODE

The Australian National Construction Code (NCC) sets out criteria for the determination of Non Combustible materials at:

C1.9.(e).(v) NON-COMBUSTIBLE MATERIALS

The following materials, may be used wherever a non-combustible material is required:

(e) Pre-finished metal sheeting having a combustible surface finish not exceeding 1mm thickness and where the Spread-of-Flame Index of the product is not greater than 0:

C3.7.1.1.(e) GENERAL CONCESSION - NON-COMBUSTIBLE MATERIALS

The following materials, though combustible or containing combustible fibres, may be used wherever a non-combustible material is required in the Housing Provisions:

(e) Pre-finished metal sheeting having a combustible surface finish not exceeding 1mm thickness and where the Spread-of-Flame Index of the product is not greater than 0:

BLUESCOPE TESTING

BlueScope has commissioned CSIRO to undertake a comprehensive range of testing to determine the Flammability of various permutations of COLORBOND® steel, ZINCALUME® steel and galvanised steel material. These tests have been conducted in accordance with AS1530.3: SIMULTANEOUS DETERMINATION OF IGNITABILITY, FLAME PROPAGATION, HEAT RELEASE AND SMOKE RELEASE.

The results of this testing are summarised at Table 1 (next page).

And;

WWW.LYSAGHT.COM

Table 1:

Product	Test Cert	lgnitability Index ⁽¹⁾ (0-20)	Spread of Flame Index ⁽²⁾ (0-10)	Heat Evolved Index ⁽³⁾ (0-10)	Smoke Developed Index ⁽⁴⁾ (1-10)
0.70 BMT COLORBOND® steel Astro™	FNE11604	0	0	0	2
0.35 BMT COLORBOND® steel Woodland Grey®	FNE11605	0	0	0	2
0.55 BMT COLORBOND® Metallic steel Citi	FNE11606	0	0	0]
0.42 BMT galvanised steel	FNE11600	0	0	0	2
0.42 BMT TRUECORE® steel	FNE11601	0	0	0	1
0.42 BMT ZINCALUME® steel	FNE11602	0	0	0	2

Explanation of four indices are assigned to materials tested to AS 1530.3

1. Ignitability index – a measure of the tendency for the gaseous pyrolysis products to be ignited during the test. Materials are rated from zero to 20, with materials that do not ignite having an index of zero.

2. Spread of flame index – a measure of the rate of radiant heat release once a material has ignited. Materials are rated on a scale of zero to 10. The maximum spread of flame index

is 10, and the minimum zero.

3. Heat evolved index - is a measure of the quantity of radiant heat released by the test material in a specified time interval after ignition. Materials are rated on a scale of zero to 10, with increasing indices indicating increasing quantities of radiant heat evolution.

4. Smoke developed index - relates to the maximum optical density of the smoke produced during the test. The index has a range of zero to 10, with each increase of one index unit indicating a doubling in the optical density of the smoke produced

IMPORTANT NOTE:

combustion reaction.

National Construction Code:

Australia (PCA), as Volume Three.

"fire rating".

When considering the information presented

in this bulletin it is important to understand

the difference between "flammability" and

Flammability is a measure of how easily

Fire ratings are applied to complete systems

and not to individual materials or components

of the system. Fire ratings, or Fire Resistance Level (FRL) refer to the fully constructed

system's ability to withstand structural failure,

prevent the spread/penetration of flames

and ability to insulate interior elements

from maximum specified temperatures. It is often expressed in minutes without

failure for each of the three elements

i.e. 60/60/60, -/120/120 anywhere from 30 minutes up to 240 minutes.

The National Construction Code (NCC) is an initiative of the Council of Australian Governments (COAG) developed to incorporate all on-site construction requirements into a single code. The NCC comprises the Building Code of Australia (BCA), Volumes One and Two; and the Plumbing Code of

a specific material ignites or sustains a

CONCLUSION

As a result of this testing we are able to determine that LYSAGHT® products manufactured from BlueScope's COLORBOND® steel, ZINCALUME® steel or galvanised steel materials all have a Spread-of-Flame index of 0 (zero) and as such are considered non-combustible materials in accordance with the National Construction Code clauses C1.12 (e) and C7.12 (e).

Additional information in relation to use of COLORBOND® steel products in bush fire prone areas may be sourced from The BlueScope Fact File Steel cladding details for bushfire-prone construction at: www.bluescopesteel.com.au/tools-andresources/bushfire-design



FOR YOUR NEAREST SUPPLIER VISIT:

WWW.LYSAGHT.COM

FOR SALES ENQUIRIES CALL 13 30 38 FOR TECHNICAL ENQUIRIES CALL 1800 641 417

COLORBOND® steel, ZINCALUME® steel, BlueScope, the BlueScope brand mark, [®] product and product brand names are registered trademarks and [™] product and product brand names are trademarks of BlueScope Steel Limited.

The LYSAGHT[®] range of products is exclusively made by or for BlueScope Steel Limited trading as Lysaght. © BlueScope Steel Limited February 2020 ABN 16 000 011 058. All rights reserved.

PRODUCT DESCRIPTIONS

All descriptions, specifications, illustrations, drawings, data, dimensions and weights contained in this catalogue, all technical literature and websites containing information from Lysaght are approximations only. They are intended by Lysaght to be a general description for information and identification purposes and do not create a sale by description. Lysaght reserves the right at any time to:

(a) supply Goods with such minor modifications from its drawings and specifications as it sees fit; and (b) alter specifications shown in its promotional literature to reflect changes made after the date of such publication.

DISCLAIMER, WARRANTIES AND LIMITATION OF LIABILITY

This publication is intended to be an aid for all trades and professionals involved with specifying and installing Lysaght products and not to be a substitute for professional judgement.

Terms and conditions of sale available at local Lysaght sales offices.

Except to the extent to which liability may not lawfully be excluded or limited, BlueScope Steel Limited will not be under or incur any liability to you for any direct or indirect loss or damage (including, without limitation, consequential loss or damage such as loss of profit or anticipated profit, loss of use, damage to goodwill and loss due to delay) however caused (including, without limitation, breach of contract, negligence and/or breach of statute), which you may suffer or incur in connection with this publication.

