



October 27, 2021

Lend Lease Building
Level 14, Tower Three, International Towers Sydney
Exchange Place, 300 Barangaroo Avenue, Barangaroo NSW 2000

Attention: Cameron Garth

Sydney Metro Martin Place South Tower

Construction Certificate 2 Item B11: Reflectivity Compliance

SSD Number 9326 Including all MOD's

The glass proposed for the Metro Martin Place South Tower façade will be supplied to the façade contractor, Yuanda Australia Pty Ltd by China Southern Glass Holdings Pty Ltd (CSG). CSG have provided the performance criteria for the project glazing which is reproduced in Annexure 1 (Formal sample forms for the various glazing systems).

I hereby confirm that the supplied performance data verifies that the external reflectivity of the façade glazing is no greater than 20% so as not to result in glare that causes any nuisance or interference to any person or place. The external reflectivity complies with the Performance Specification and the Reflectivity Report number CSWSMP-MAC-SMA-UD-REP-000230 revision 03 dated 29/08/2018 prepared by Surface Design.

Painted aluminium surfaces (sheet cladding, curtain wall framing or sunshades) proposed for the project have low gloss levels and so generally exhibit diffuse reflectance properties. This means that the sun's rays are diffused over the metal surface (rather than creating an "apparent sun" on the reflecting surface) which does not result in disabling glare to neighbouring observers.

The rough surface of the both the glazed and raw terracotta cladding proposed for the project have low gloss levels and exhibit diffuse reflectance properties, similar to the painted surfaces.

Painted aluminium and terracotta surfaces comply with the City of Sydney's requirement for maximum 20% reflectance. The project façade performance specification has no reflectivity requirements for these finishes.

Materials have been selected to comply with the following portion of condition of consent item B11:

"External materials must be pre colour coated or manufactured having a low glare and low reflective finish. The building materials used on the facades of the building shall have a maximum normal specular reflectivity of visible light limited to 20 per cent"

Feel free to contact the undersigned if any further clarification is required.

Yours Faithfully,

A handwritten signature in black ink, appearing to read 'Colin Ross', with a stylized flourish at the end.

Colin Ross

MEng CPEng MIEAus NER RPEQ PE(Vic)

M: 0437 751 369

E: cr@corefdm.com

Annexure 1

Sample No. CSWSMP-YUA-SMS-FA-SAM-100001 - Glass Type GS1-1 FLAT

Sample No. CSWSMP-YUA-SMS-FA-SAM-100002 - Glass Type GS1-2 CONVEX

Sample No. CSWSMP-YUA-SMS-FA-SAM-100003 - Glass Type GS1-3 CONCAVE

Sample No. CSWSMP-YUA-SMS-FA-SAM-100004 - Glass Type GS1-4 FLAT

Sample No. CSWSMP-YUA-SMS-FA-SAM-100005 - Glass Type GS3A/3B FLAT

Sample No. CSWSMP-YUA-SMS-FA-SAM-100006 - Glass Type GS3A/3B CONVEX

Sample No. CSWSMP-YUA-SMS-FA-SAM-100009 - Glass Type BS1

Trade Package No:	41151	Subcontractor:	YUANDA AUSTRALIA
Aconex Document No:	CSWSMP-YUA-SMS-FA-SAM-100001		Date: 25 th May 2020
Description of Product/Material:	Glass Type GS1-1 FLAT Insulating glass unit comprising: - 10mm Crystal Grey heat strengthened outer with SJ65-7 (surface #2) - 12mm air space (Air fill with black anodised spacer) - 11.52mm Clear heat strengthened laminated inner (5 Clear HS/1.52mm Clear PVB/5 Clear HS) Locations of use: - S-FT-05A Vision glass (Level 1-8)		
Submission Type:	Sample / Technical Submission / Prototype / Mock-Up *		
Specification Reference/s:	Surface Design Façade Performance Specification – Cl. 4.4.1 – 4.4.5, Appendix A & Appendix B.		

Material/Product Type	Manufacturer	Model	Model Ref / Colour
Insulating glass unit	Tianjin CSG Energy Conservation Glass Co Ltd	Glass Type GS1-1 FLAT	SJ65-7 Low E coating

Country of Origin	Distributor Name
CHINA	N/A

Is this Submission an Approved Equivalent or Substitution? <i>If Yes provide related reference to substitution approval in technical data and attach</i>	Yes / No*
Does Product contain multiple materials?	Yes / No *
Does Product/Material contain any material deemed hazardous under Australian law?	Yes / No*
Are there Mandatory Certification Requirements (e.g. WaterMark)? <i>If Yes current certificate to be attached</i>	Yes / No*

ATTACHMENTS (NOTE: TECHNICAL DATA MUST BE ATTACHED TO ALL SUBMISSIONS AND DESCRIBED BELOW)

Technical Data (e.g. Relevant Certificates of Conformance; Test Reports; Performance Data; MSDS)
1) Tianjin CSG – Performance datasheet (dated 09/04/20) Item number 1.

Brochures and Marketing information	Other (e.g. images, drawings, sketches)
N/A	Sample photo

APPROVAL (NOTE: DIGITAL STAMPS/SIGNATURES ACCEPTED WHEN ISSUED VIA ACONEX WORKFLOW)

Architect (Tzannes)	Façade Consultant (Surface Design)
Name.....	Name.....
Role.....	Role.....
SignatureDate.....	SignatureDate.....
ESD Consultant (Lendlease Integrated Solutions)	Client (Macquarie)
Name.....	Name.....
Role.....	Role.....
SignatureDate.....	SignatureDate.....

* - Delete as appropriate

(All written attachments are to be tagged or labelled with above information be saved in a format where the full text contents are is searchable – i.e. not a photographic scan. Attachments should be compiled into a single PDF with the completed Sample and Technical Submission Approval form as the cover sheet)

Please submit to Lendlease on completion via Aconex “Technical Data” or “Sample” (for physical samples) document type - Client’s representative to review and approve submission on Aconex and sign label or tag on physical sample to indicate approval (where submitted).





天津南玻节能玻璃有限公司

TIANJIN CSG ENERGY CONSERVATION GLASS CO., LTD.

项目名称	Metro Martin Place South Tower		检验日期	2020/4/14
Product Name	Metro Martin Place South Tower		检验日期	2020/4/14
产品结构	10(Crystal Grey)SJ65s--			
Product Code	7#2+12A(Black)+5/1.52PVB/5			
产品性能	可见光透过率 T (%)	可见光反射率 R _f (%)	U (W/m ² .K)	Sc
Performance				
客户签署				
signature				

样片及参数仅供参考!
Samples and parameters are for reference only!

室外面
Exterior Side



SHENYANG YUANDA ALUMINIUM INDUSTRY ENGINEERING CO.,LTD.

Project	Metro Martin Place-South Tower		
Sample	Glass Sample	Sample No.	GS1-1-A
Supplier	CSG	Origin	China
Description	10mm HS Crystal Grey SJ65S-7 #2 12mm cavity (Air fill) black spacer 11.52mm HS Laminated inner (5 Clear/1.52 Clear PVB/5 Clear)		
Remarks	Black sealant; black anodized spacer		
Approved by			

CHINA SOUTHERN GLASS HOLDING CO.,LTD

PERFORMANCE DATA OF GLASS PRODUCT

2020/4/9

Fuyuan Road, Wuqing Development Area, Tianjin, China.Tel: +86-22-82109988 Fax: +86-22-82109989

PROJECT: Metro Martin Place North Tower

NO	DESCRIPTION OF SAMPLE	Visible Light (%)			Solar Energy(%)			U-Value		Shading Coefficient	SHGC	STC
		Trans	Reflect		Trans	Reflect		winter night	Summer daylight			dB
			Out	In		out	In	W/M ² .K				
1	10HS (Crystal grey) SJ65s-7#2+12A+5HS/1. 52PVB/5HS	33	6	10	12	11	28	1. 6	1. 55	0. 23	0. 2	41
2	5HS (Crystal grey) /1. 52PVB/5HS (SJ65s-1)#4+12A+5HS/1. 52PVB/5HS	45	8	10	17	16	28	1. 58	1. 53	0. 28	0. 24	43
3	6HS (Crystal grey) SJ65s-7#2+12A+10HS	43	8	10	17	19	32	1. 63	1. 58	0. 27	0. 23	39
4	10HS (Low iron) /1. 52PVB/10HS (Low iron)	90	9	9	78	8	8	5. 26	4. 81	0. 95	0. 83	40
5	8HS (Crystal Grey) TT65s-7#2+12A+5HS/3. 04PVB/5HS	39	8	14	15	16	28	1. 61	1. 57	0. 25	0. 22	41
6	5HS (Crystal Grey) /3. 04PVB/5HS (Crystal Grey)+12A+8HS (TT65s-1)#5	34	8	11	13	10	35	1. 6	1. 56	0. 3	0. 26	41
7	6HS (Crystal Grey) TT65s-7#2+12A+10HS	43	8	14	17	20	33	1. 65	1. 61	0. 27	0. 23	39

NOTE:

- 1.The data is based on calculation by Window 7.4 under NFRC standard conditions.
- 2.The actual performance data of products may slightly differ from the data listed.
- 3.Note: C-Clear glass ;A-Air space ;Ar-Argon filled;HS--heat strength;FT-Full tempered.
- 4.Frit effect is estimated.The performance data please refers to the non- frit glass.
- 5.隔声数据参考美国viracon网站数据, 仅供参考, 最终需以实测为准!

NO:1 SUM:1

Trade Package No:	41151	Subcontractor:	YUANDA AUSTRALIA
Aconex Document No:	CSWSMP-YUA-SMS-FA-SAM-100002	Date:	18 th August 2020
Description of Product/Material:	Glass Type GS1-2 CONVEX Insulating glass unit comprising: - 8mm Crystal Grey heat strengthened outer with TT65S (surface #2) - 12mm air space (Air fill with black anodised spacer) - 13.04mm heat strengthened laminated inner (5 Clear HS/3.04mm Clear PVB/5 Clear HS) Locations of use: - S-FT-05A Vision glass (Level 1-8)		
Submission Type:	Sample / Technical Submission / Prototype / Mock-Up *		
Specification Reference/s:	Surface Design Façade Performance Specification – Cl. 4.4.1 – 4.4.5, Appendix A & Appendix B and Tzannes Architectural Specification CCWSMP-MAC-SMS-AT-SPC-999900.		

Material/Product Type	Manufacturer	Model	Model Ref / Colour
Insulating glass unit	Tianjin CSG Energy Conservation Co Ltd	Glass Type GS1-2 CONVEX	TT65S Low E coating

Country of Origin	Distributor Name
CHINA	N/A

Is this Submission an Approved Equivalent or Substitution? <i>If Yes provide related reference to substitution approval in technical data and attach</i>	Yes / No*
Does Product contain multiple materials?	Yes / No*
Does Product/Material contain any material deemed hazardous under Australian law?	Yes / No*
Are there Mandatory Certification Requirements (e.g. WaterMark)? <i>If Yes current certificate to be attached</i>	Yes / No*

ATTACHMENTS (NOTE: TECHNICAL DATA MUST BE ATTACHED TO ALL SUBMISSIONS AND DESCRIBED BELOW)

Technical Data (e.g. Relevant Certificates of Conformance; Test Reports; Performance Data; MSDS)
1) Tianjin CSG – Performance datasheet (dated 09/04/20) Item number 5.

Brochures and Marketing information	Other (e.g. images, drawings, sketches)
N/A	Sample photo

APPROVAL (NOTE: DIGITAL STAMPS/SIGNATURES ACCEPTED WHEN ISSUED VIA ACONEX WORKFLOW)

Architect (Tzannes)	Façade Consultant (Surface Design)
Name.....	Name.....
Role.....	Role.....
SignatureDate.....	SignatureDate.....
ESD Consultant (Lendlease Integrated Solutions)	Client (Macquarie)
Name.....	Name.....
Role.....	Role.....
SignatureDate.....	SignatureDate.....

* - Delete as appropriate

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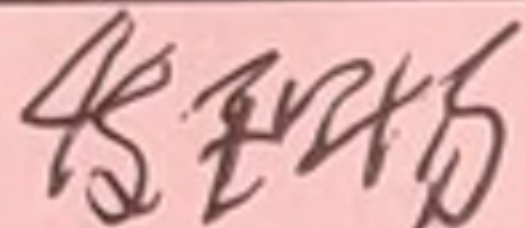
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天津南玻节能玻璃有限公司

TIANJIN CSG ENERGY CONSERVATION GLASS CO., LTD.

项目名称: Project:	Metro Martin Place South Tower		质检: QC:
产品结构: Structure:	8V(8V) (TT65S-7) #2+12HB(进结)+5V/3.04/5V-《		
尺寸: Size:	600*600	制作日期: Date:	2020/7/31
签署: Signature:			

此样片仅供颜色参考，工程验收应以不小于600*800的首批产品为准。

The sample is only for colour reference. Project acceptance check is subject to the first batch of products not less than 600*800.



SHENYANG YUANDA ALUMINIUM INDUSTRY ENGINEERING CO., LTD.

Metro Martin Place-South Tower

Project	Metro Martin Place-South Tower		
Sample	Glass Sample	Sample No.	WGS1-2-A
Supplier	CSG	Origin	China
Description	8HS(Crystal Grey)TT65s 7#2+12A+5HS/3.04PVB/5HS (600 x 300mm Radius 1500mm)		
Remarks	Black sealant; black anodized spacer		
Approved by			

CHINA SOUTHERN GLASS HOLDING CO.,LTD

PERFORMANCE DATA OF GLASS PRODUCT

2020/4/9

Fuyuan Road, Wuqing Development Area, Tianjin, China.Tel: +86-22-82109988 Fax: +86-22-82109989

PROJECT: Metro Martin Place South Tower

NO	DESCRIPTION OF SAMPLE	Visible Light (%)			Solar Energy(%)			U-Value		Shading Coefficient	SHGC	STC
		Trans	Reflect		Trans	Reflect		winter night	Summer daylight			dB
			Out	In		out	In	W/M².K				
1	10HS (Crystal grey) SJ65s-7#2+12A+5HS/1. 52PVB/5HS	33	6	10	12	11	28	1. 6	1. 55	0. 23	0. 2	41
2	5HS (Crystal grey) /1. 52PVB/5HS (SJ65s-1) #4+12A+5HS/1. 52PVB/5HS	45	8	10	17	16	28	1. 58	1. 53	0. 28	0. 24	43
3	6HS (Crystal grey) SJ65s-7#2+12A+10HS	43	8	10	17	19	32	1. 63	1. 58	0. 27	0. 23	39
4	10HS (Low iron) /1. 52PVB/10HS (Low iron)	90	9	9	78	8	8	5. 26	4. 81	0. 95	0. 83	40
5	8HS (Crystal Grey) TT65s-7#2+12A+5HS/3. 04PVB/5HS	39	8	14	15	16	28	1. 61	1. 57	0. 25	0. 22	41
6	5HS (Crystal Grey) /3. 04PVB/5HS (Crystal Grey)+12A+8HS (TT65s-1) #5	34	8	11	13	10	35	1. 6	1. 56	0. 3	0. 26	41
7	6HS (Crystal Grey) TT65s-7#2+12A+10HS	43	8	14	17	20	33	1. 65	1. 61	0. 27	0. 23	39

NOTE:

- 1.The data is based on calculation by Window 7.4 under NFRC standard conditions.
- 2.The actual performance data of products may slightly differ from the data listed.
- 3.Note: C-Clear glass ;A-Air space ;Ar-Argon filled;HS--heat strength;FT-Full tempered.
- 4.Frit effect is estimated.The performance data please refers to the non- frit glass.
- 5.隔声数据参考美国viracon网站数据, 仅供参考, 最终需以实测为准!

Trade Package No:	41151	Subcontractor:	YUANDA AUSTRALIA
Aconex Document No:	CSWSMP-YUA-SMS-FA-SAM-100003	Date:	18 th August 2020
Description of Product/Material:	Glass Type GS1-3 CONCAVE Insulating glass unit comprising: - 13.04mm heat strengthened laminated outer (5 Crystal Grey HS/3.04mm Clear PVB/5 Crystal Grey HS) - 12mm air space (Air fill with black anodised spacer) - 8mm Clear heat strengthened inner with TT65S (surface #5) Locations of use: - S-FT-05A Vision glass (Level 1-8)		
Submission Type:	Sample / Technical Submission / Prototype / Mock Up *		
Specification Reference/s:	Surface Design Façade Performance Specification – Cl. 4.4.1 – 4.4.5, Appendix A & Appendix B and Tzannes Architectural Specification CCWSMP-MAC-SMS-AT-SPC-999900.		

Material/Product Type	Manufacturer	Model	Model Ref / Colour
Insulating glass unit	Tianjin CSG Energy Conservation Co Ltd	Glass Type GS1-3 CONCAVE	TT65S Low E coating

Country of Origin	Distributor Name
CHINA	N/A

Is this Submission an Approved Equivalent or Substitution? <i>If Yes provide related reference to substitution approval in technical data and attach</i>	Yes / No*
Does Product contain multiple materials?	Yes / No*
Does Product/Material contain any material deemed hazardous under Australian law?	Yes / No*
Are there Mandatory Certification Requirements (e.g. WaterMark)? <i>If Yes current certificate to be attached</i>	Yes / No*

ATTACHMENTS (NOTE: TECHNICAL DATA MUST BE ATTACHED TO ALL SUBMISSIONS AND DESCRIBED BELOW)

Technical Data (e.g. Relevant Certificates of Conformance; Test Reports; Performance Data; MSDS)

- 1) Tianjin CSG – Performance datasheet (dated 09/04/20) Item number 6.

Brochures and Marketing information	Other (e.g. images, drawings, sketches)
N/A	Sample photo

APPROVAL (NOTE: DIGITAL STAMPS/SIGNATURES ACCEPTED WHEN ISSUED VIA ACONEX WORKFLOW)

Architect (Tzannes)	Façade Consultant (Surface Design)
Name.....	Name.....
Role.....	Role.....
SignatureDate.....	SignatureDate.....
ESD Consultant (Lendlease Integrated Solutions)	Client (Macquarie)
Name.....	Name.....
Role.....	Role.....
SignatureDate.....	SignatureDate.....

* - Delete as appropriate

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天津南玻节能玻璃有限公司

TIANJIN CSG ENERGY CONSERVATION GLASS CO., LTD.

项目名称: Metro Martin Place South Tower
Project: Metro Martin Place South Tower
产品结构: 5(K)V/3.04/5(K)V+12HB(进结)+8VM(TT65S-1)#1-12.0
Structure: 5(K)V/3.04/5(K)V+12HB(进结)+8VM(TT65S-1)#1-12.0

尺寸: 600*600
Size: 600*600
制作日期: 2020/7/31
Date: 2020/7/31

签署:
Signature

此样片仅供... 应以不小于600*800的首批产品为准。
The sample reference. Project acceptance check is subject to the first batch of products not less than 600*800.



SHENYANG YUANDA ALUMINIUM INDUSTRY ENGINEERING CO., LTD.

Project Metro Martin Place-South Tower

Sample Glass Sample Sample No. WGS1-3-A

Supplier CSG Origin China

Description 5HS(Crystal Grey)/3.04PVB/5HS(Crystal Grey)+12A+8HS(TT65s-1)#5 (600 x 300mm Radius 1500mm)

Remarks Black sealant; black anodized spacer

Approved by

CHINA SOUTHERN GLASS HOLDING CO.,LTD

PERFORMANCE DATA OF GLASS PRODUCT

2020/4/9

Fuyuan Road, Wuqing Development Area, Tianjin, China.Tel: +86-22-82109988 Fax: +86-22-82109989

PROJECT: Metro Martin Place South Tower

NO	DESCRIPTION OF SAMPLE	Visible Light (%)			Solar Energy(%)			U-Value		Shading Coefficient	SHGC	STC
		Trans	Reflect		Trans	Reflect		winter night	Summer daylight			dB
			Out	In		out	In	W/M².K				
1	10HS (Crystal grey) SJ65s-7#2+12A+5HS/1.52PVB/5HS	33	6	10	12	11	28	1.6	1.55	0.23	0.2	41
2	5HS (Crystal grey) /1.52PVB/5HS (SJ65s-1) #4+12A+5HS/1.52PVB/5HS	45	8	10	17	16	28	1.58	1.53	0.28	0.24	43
3	6HS (Crystal grey) SJ65s-7#2+12A+10HS	43	8	10	17	19	32	1.63	1.58	0.27	0.23	39
4	10HS (Low iron) /1.52PVB/10HS (Low iron)	90	9	9	78	8	8	5.26	4.81	0.95	0.83	40
5	8HS (Crystal Grey) TT65s-7#2+12A+5HS/3.04PVB/5HS	39	8	14	15	16	28	1.61	1.57	0.25	0.22	41
6	5HS (Crystal Grey) /3.04PVB/5HS (Crystal Grey) +12A+8HS (TT65s-1) #5	34	8	11	13	10	35	1.6	1.56	0.3	0.26	41
7	6HS (Crystal Grey) TT65s-7#2+12A+10HS	43	8	14	17	20	33	1.65	1.61	0.27	0.23	39

NOTE:

- 1.The data is based on calculation by Window 7.4 under NFRC standard conditions.
- 2.The actual performance data of products may slightly differ from the data listed.
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- 5.隔声数据参考美国viracon网站数据, 仅供参考, 最终需以实测为准!

NO:1 SUM:1

Trade Package No:	41151	Subcontractor:	YUANDA AUSTRALIA
Aconex Document No:	CSWSMP-YUA-SMS-FA-SAM-100004		Date: 25 th May 2020
Description of Product/Material:	Glass Type GS1-4 FLAT Insulating glass unit comprising: - 11.52mm Crystal Grey heat strengthened laminated outer (5 Crystal Grey/1.52mm Clear PVB/5 Clear) with SJ65-1 (surface #4) - 12mm air space (Air fill with black anodised spacer) - 11.52mm Clear heat strengthened laminated inner (5 Clear HS/1.52mm Clear PVB/5 Clear HS) Locations of use: - S-FT-07A Vision glass (Level 9)		
Submission Type:	Sample / Technical Submission / Prototype / Mock-Up *		
Specification Reference/s:	Surface Design Façade Performance Specification – Cl. 4.4.1 – 4.4.5, Appendix A & Appendix B.		

Material/Product Type	Manufacturer	Model	Model Ref / Colour
Insulating glass unit	Tianjin CSG Energy Conservation Glass Co Ltd	Glass Type GS1-4 FLAT	SJ65-1 Low E coating

Country of Origin	Distributor Name
CHINA	N/A

Is this Submission an Approved Equivalent or Substitution? <i>If Yes provide related reference to substitution approval in technical data and attach</i>	Yes / No*
Does Product contain multiple materials?	Yes / No *
Does Product/Material contain any material deemed hazardous under Australian law?	Yes / No*
Are there Mandatory Certification Requirements (e.g. WaterMark)? <i>If Yes current certificate to be attached</i>	Yes / No*

ATTACHMENTS (NOTE: TECHNICAL DATA MUST BE ATTACHED TO ALL SUBMISSIONS AND DESCRIBED BELOW)

Technical Data (e.g. Relevant Certificates of Conformance; Test Reports; Performance Data; MSDS)

- 1) Tianjin CSG – Performance datasheet (dated 09/04/20) Item number 2.

Brochures and Marketing information	Other (e.g. images, drawings, sketches)
N/A	Sample photo

APPROVAL (NOTE: DIGITAL STAMPS/SIGNATURES ACCEPTED WHEN ISSUED VIA ACONEX WORKFLOW)

Architect (Tzannes)	Façade Consultant (Surface Design)
Name.....	Name.....
Role.....	Role.....
SignatureDate.....	SignatureDate.....
ESD Consultant (Lendlease Integrated Solutions)	Client (Macquarie)
Name.....	Name.....
Role.....	Role.....
SignatureDate.....	SignatureDate.....

* - Delete as appropriate

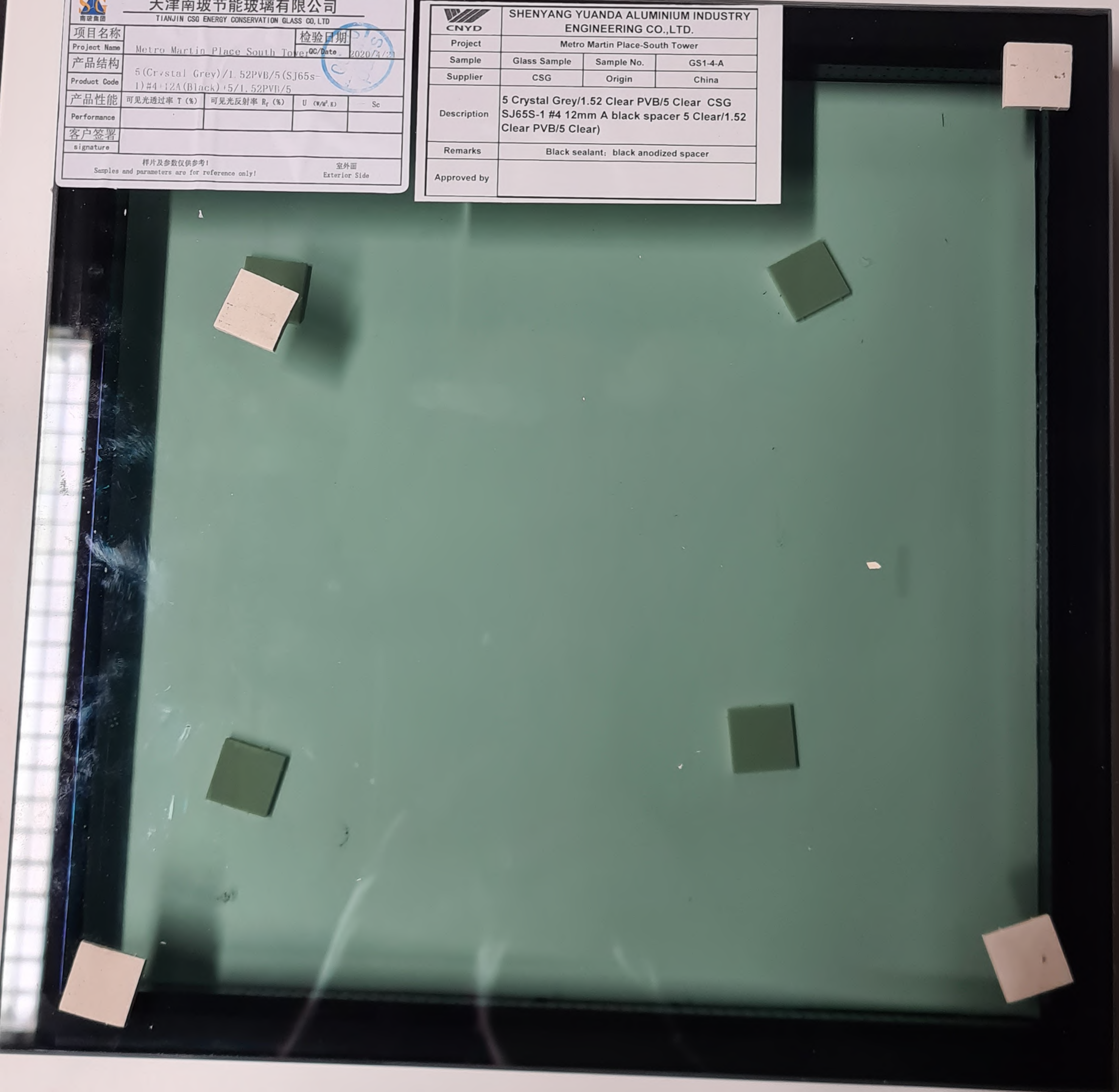
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 天津南玻节能玻璃有限公司 TIANJIN CSG ENERGY CONSERVATION GLASS CO., LTD.				
项目名称	Project Name		检验日期	QC/Date
Metro Martin Place South Tower		2020/3/20		
产品结构	5 (Crystal Grey)/1.52PVB/5 (SJ65S-1) #4+12A (Black)+5/1.52PVB/5			
Product Code				
产品性能	可见光透过率 T (%)	可见光反射率 R _f (%)	U (W/m ² .K)	Sc
Performance				
客户签署	signature			
样品及参数仅供参考! Samples and parameters are for reference only!				
室外面 Exterior Side				

 SHENYANG YUANDA ALUMINIUM INDUSTRY ENGINEERING CO.,LTD.			
Project	Metro Martin Place-South Tower		
Sample	Glass Sample	Sample No.	GS1-4-A
Supplier	CSG	Origin	China
Description	5 Crystal Grey/1.52 Clear PVB/5 Clear CSG SJ65S-1 #4 12mm A black spacer 5 Clear/1.52 Clear PVB/5 Clear)		
Remarks	Black sealant; black anodized spacer		
Approved by			



CHINA SOUTHERN GLASS HOLDING CO.,LTD

PERFORMANCE DATA OF GLASS PRODUCT

2020/4/9

Fuyuan Road, Wuqing Development Area, Tianjin, China.Tel: +86-22-82109988 Fax: +86-22-82109989

PROJECT: Metro Martin Place North Tower

NO	DESCRIPTION OF SAMPLE	Visible Light (%)			Solar Energy(%)			U-Value		Shading Coefficient	SHGC	STC
		Trans	Reflect		Trans	Reflect		winter night	Summer daylight			dB
			Out	In		out	In	W/M².K				
1	10HS (Crystal grey) SJ65s-7#2+12A+5HS/1.52PVB/5HS	33	6	10	12	11	28	1.6	1.55	0.23	0.2	41
2	5HS (Crystal grey) /1.52PVB/5HS (SJ65s-1) #4+12A+5HS/1.52PVB/5HS	45	8	10	17	16	28	1.58	1.53	0.28	0.24	43
3	6HS (Crystal grey) SJ65s-7#2+12A+10HS	43	8	10	17	19	32	1.63	1.58	0.27	0.23	39
4	10HS (Low iron) /1.52PVB/10HS (Low iron)	90	9	9	78	8	8	5.26	4.81	0.95	0.83	40
5	8HS (Crystal Grey) TT65s-7#2+12A+5HS/3.04PVB/5HS	39	8	14	15	16	28	1.61	1.57	0.25	0.22	41
6	5HS (Crystal Grey) /3.04PVB/5HS (Crystal Grey) +12A+8HS (TT65s-1) #5	34	8	11	13	10	35	1.6	1.56	0.3	0.26	41
7	6HS (Crystal Grey) TT65s-7#2+12A+10HS	43	8	14	17	20	33	1.65	1.61	0.27	0.23	39

NOTE:

- 1.The data is based on calculation by Window 7.4 under NFRC standard conditions.
- 2.The actual performance data of products may slightly differ from the data listed.
- 3.Note: C-Clear glass ;A-Air space ;Ar-Argon filled;HS--heat strength;FT-Full tempered.
- 4.Frit effect is estimated.The performance data please refers to the non- frit glass.
- 5.隔声数据参考美国viracon网站数据, 仅供参考, 最终需以实测为准!

NO:1 SUM:1

Trade Package No:	41151	Subcontractor:	YUANDA AUSTRALIA
Aconex Document No:	CSWSMP-YUA-SMS-FA-SAM-100005	Date:	25 th May 2020
Description of Product/Material:	Glass Type GS3A/3B FLAT Insulating glass unit comprising: - 6mm Crystal Grey heat strengthened with SJ65S-7 (surface #2) - 12mm air space (Air fill with black anodised spacer) - 10mm Clear heat strengthened inner Locations of use: - S-FT-08A/08B Vision glass (Level 11-27)		
Submission Type:	Sample / Technical Submission / Prototype / Mock-Up *		
Specification Reference/s:	Surface Design Façade Performance Specification – Cl. 4.4.1 – 4.4.5, Appendix A & Appendix B.		

Material/Product Type	Manufacturer	Model	Model Ref / Colour
Insulating glass unit	Tianjin CSG Energy Conservation Glass Co Ltd	Glass Type GS3A/3B FLAT	SJ65-7 Low E coating

Country of Origin	Distributor Name
CHINA	N/A

Is this Submission an Approved Equivalent or Substitution? <i>If Yes provide related reference to substitution approval in technical data and attach</i>	Yes / No*
Does Product contain multiple materials?	Yes / No*
Does Product/Material contain any material deemed hazardous under Australian law?	Yes / No*
Are there Mandatory Certification Requirements (e.g. WaterMark)? <i>If Yes current certificate to be attached</i>	Yes / No*

ATTACHMENTS (NOTE: TECHNICAL DATA MUST BE ATTACHED TO ALL SUBMISSIONS AND DESCRIBED BELOW)**Technical Data (e.g. Relevant Certificates of Conformance; Test Reports; Performance Data; MSDS)**

- 1) Tianjin CSG – Performance datasheet (dated 09/04/20) Item number 3.

Brochures and Marketing information	Other (e.g. images, drawings, sketches)
N/A	Sample photo



APPROVAL (NOTE: DIGITAL STAMPS/SIGNATURES ACCEPTED WHEN ISSUED VIA ACONEX WORKFLOW)

Architect (Tzannes)	Façade Consultant (Surface Design)
Name.....	Name.....
Role.....	Role.....
SignatureDate.....	SignatureDate.....
ESD Consultant (Lendlease Integrated Solutions)	Client (Macquarie)
Name.....	Name.....
Role.....	Role.....
SignatureDate.....	SignatureDate.....

* - Delete as appropriate

(All written attachments are to be tagged or labelled with above information be saved in a format where the full text contents are is searchable – i.e. not a photographic scan. Attachments should be compiled into a single PDF with the completed Sample and Technical Submission Approval form as the cover sheet)

Please submit to Lendlease on completion via Aconex “Technical Data” or “Sample” (for physical samples) document type - Client’s representative to review and approve submission on Aconex and sign label or tag on physical sample to indicate approval (where submitted).



 天津南玻节能玻璃有限公司 TIANJIN CSG ENERGY CONSERVATION GLASS CO.,LTD.					
项目名称	Metro Martin Place South Tower			检验日期	2020/4/21
Product Name	Metro Martin Place South Tower			QC/Date	2020/4/21
产品结构	6 (Crystal Grey) SJ65s-7#2+12A (Black 黑铝) +10				
Product Code					
产品性能	可见光透过率 T (%)	可见光反射率 R _f (%)	U (W/m².K)	Sc	
Performance					
客户签署					
signature					
样片及参数仅供参考! Samples and parameters are for reference only!					室外面 Exterior Side

 SHENYANG YUANDA ALUMINIUM INDUSTRY ENGINEERING CO.,LTD.			
Project	Metro Martin Place-South Tower		
Sample	Mass Sample	Sample No.	GS3A-A
Supplier	CSG	Origin	China
Description	6mm Crystal Grey HS CSG SJ65S-7 #2 12mm A black spacer 10mm Clear HS		
Remarks	Black sealant; black anodized spacer		
Approved by			



CHINA SOUTHERN GLASS HOLDING CO.,LTD

PERFORMANCE DATA OF GLASS PRODUCT

2020/4/9

Fuyuan Road, Wuqing Development Area, Tianjin, China.Tel: +86-22-82109988 Fax: +86-22-82109989

PROJECT: Metro Martin Place North Tower

NO	DESCRIPTION OF SAMPLE	Visible Light (%)			Solar Energy(%)			U-Value		Shading Coefficient	SHGC	STC
		Trans	Reflect		Trans	Reflect		winter night	Summer daylight			dB
			Out	In		out	In	W/M ² .K				
1	10HS (Crystal grey) SJ65s-7#2+12A+5HS/1. 52PVB/5HS	33	6	10	12	11	28	1. 6	1. 55	0. 23	0. 2	41
2	5HS (Crystal grey) /1. 52PVB/5HS (SJ65s-1) #4+12A+5HS/1. 52PVB/5HS	45	8	10	17	16	28	1. 58	1. 53	0. 28	0. 24	43
3	6HS (Crystal grey) SJ65s-7#2+12A+10HS	43	8	10	17	19	32	1. 63	1. 58	0. 27	0. 23	39
4	10HS (Low iron) /1. 52PVB/10HS (Low iron)	90	9	9	78	8	8	5. 26	4. 81	0. 95	0. 83	40
5	8HS (Crystal Grey) TT65s-7#2+12A+5HS/3. 04PVB/5HS	39	8	14	15	16	28	1. 61	1. 57	0. 25	0. 22	41
6	5HS (Crystal Grey) /3. 04PVB/5HS (Crystal Grey) +12A+8HS (TT65s-1) #5	34	8	11	13	10	35	1. 6	1. 56	0. 3	0. 26	41
7	6HS (Crystal Grey) TT65s-7#2+12A+10HS	43	8	14	17	20	33	1. 65	1. 61	0. 27	0. 23	39

NOTE:

- 1.The data is based on calculation by Window 7.4 under NFRC standard conditions.
- 2.The actual performance data of products may slightly differ from the data listed.
- 3.Note: C-Clear glass ;A-Air space ;Ar-Argon filled;HS--heat strength;FT-Full tempered.
- 4.Frit effect is estimated.The performance data please refers to the non- frit glass.
- 5.隔声数据参考美国viracon网站数据, 仅供参考, 最终需以实测为准!

NO:1 SUM:1

Trade Package No:	41151	Subcontractor:	YUANDA AUSTRALIA
Aconex Document No:	CSWSMP-YUA-SMS-FA-SAM-100006	Date:	18 th August 2020
Description of Product/Material:	Glass Type GS3A/3B CONVEX Insulating glass unit comprising: - 6mm Crystal Grey heat strengthened outer with TT65S (surface #2) - 12mm air space (Air fill with black anodised spacer) - 10mm Clear heat strengthened inner Locations of use: - S-FT-08A/S-FT-08B Vision glass (Level 11-27)		
Submission Type:	Sample / Technical Submission / Prototype / Mock Up *		
Specification Reference/s:	Surface Design Façade Performance Specification – Cl. 4.4.1 – 4.4.5, Appendix A & Appendix B and Tzannes Architectural Specification CCWSMP-MAC-SMS-AT-SPC-999900.		

Material/Product Type	Manufacturer	Model	Model Ref / Colour
Insulating glass unit	Tianjin CSG Energy Conservation Co Ltd	Glass Type GS3A/3B CONVEX	TT65S Low E coating

Country of Origin	Distributor Name
CHINA	N/A

Is this Submission an Approved Equivalent or Substitution? <i>If Yes provide related reference to substitution approval in technical data and attach</i>	Yes / No*
Does Product contain multiple materials?	Yes / No*
Does Product/Material contain any material deemed hazardous under Australian law?	Yes / No*
Are there Mandatory Certification Requirements (e.g. WaterMark)? <i>If Yes current certificate to be attached</i>	Yes / No*

ATTACHMENTS (NOTE: TECHNICAL DATA MUST BE ATTACHED TO ALL SUBMISSIONS AND DESCRIBED BELOW)**Technical Data (e.g. Relevant Certificates of Conformance; Test Reports; Performance Data; MSDS)**

- 1) Tianjin CSG – Performance datasheet (dated 09/04/20) Item number 7.

Brochures and Marketing information	Other (e.g. images, drawings, sketches)
N/A	Sample photo



APPROVAL (NOTE: DIGITAL STAMPS/SIGNATURES ACCEPTED WHEN ISSUED VIA ACONEX WORKFLOW)

Architect (Tzannes)	Façade Consultant (Surface Design)
Name.....	Name.....
Role.....	Role.....
SignatureDate.....	SignatureDate.....
ESD Consultant (Lendlease Integrated Solutions)	Client (Macquarie)
Name.....	Name.....
Role.....	Role.....
SignatureDate.....	SignatureDate.....

* - Delete as appropriate

(All written attachments are to be tagged or labelled with above information be saved in a format where the full text contents are is searchable – i.e. not a photographic scan. Attachments should be compiled into a single PDF with the completed Sample and Technical Submission Approval form as the cover sheet)

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天津南玻节能玻璃有限公司
TIANJIN CSG ENERGY CONSERVATION GLASS CO., LTD.

TIANJIN CSG ENERGY		质检:		
项目名称:	Metro Martin Place South Tower		QC:	
Project:				
产品结构:	6mm Crystal Grey HS CSG #2+12HB (进结)+10V-《12.0			
Structure:				
尺寸:	600*600	制作日期:	2020/7/31	
Size:		Date:		
签署:				
Signature:				

此样片仅供颜色参考, 工程验收应以不小于600*800的首批产品为准。
The sample is only for colour reference. Project acceptance check is subject to the first batch of products not less than 600*800.

41147 箱号: 2-2
DGNB (澳洲马丁南北楼)

2

600

600



SHENYANG YUANDA ALUMINIUM INDUSTRY
ENGINEERING CO., LTD.

Project	Metro Martin Place-South Tower		
Sample	Glass Sample	Sample No.	WGS3A-A
Supplier	CSG	Origin	China
Description	6mm Crystal Grey HS CSG #2+12HB (进结)+10V-《12.0 12mm A black spacer 10mm Clear HS (600 x 300mm Radius 1500mm)		
Remarks	Black sealant; black anodized spacer		
Approved by			

CHINA SOUTHERN GLASS HOLDING CO.,LTD

PERFORMANCE DATA OF GLASS PRODUCT

2020/4/9

Fuyuan Road, Wuqing Development Area, Tianjin, China.Tel: +86-22-82109988 Fax: +86-22-82109989

PROJECT: Metro Martin Place North Tower

NO	DESCRIPTION OF SAMPLE	Visible Light (%)			Solar Energy(%)			U-Value		Shading Coefficient	SHGC	STC
		Trans	Reflect		Trans	Reflect		winter night	Summer daylight			dB
			Out	In		out	In	W/M ² .K				
1	10HS (Crystal grey) SJ65s-7#2+12A+5HS/1. 52PVB/5HS	33	6	10	12	11	28	1. 6	1. 55	0. 23	0. 2	41
2	5HS (Crystal grey) /1. 52PVB/5HS (SJ65s-1) #4+12A+5HS/1. 52PVB/5HS	45	8	10	17	16	28	1. 58	1. 53	0. 28	0. 24	43
3	6HS (Crystal grey) SJ65s-7#2+12A+10HS	43	8	10	17	19	32	1. 63	1. 58	0. 27	0. 23	39
4	10HS (Low iron) /1. 52PVB/10HS (Low iron)	90	9	9	78	8	8	5. 26	4. 81	0. 95	0. 83	40
5	8HS (Crystal Grey) TT65s-7#2+12A+5HS/3. 04PVB/5HS	39	8	14	15	16	28	1. 61	1. 57	0. 25	0. 22	41
6	5HS (Crystal Grey) /3. 04PVB/5HS (Crystal Grey) +12A+8HS (TT65s-1) #5	34	8	11	13	10	35	1. 6	1. 56	0. 3	0. 26	41
7	6HS (Crystal Grey) TT65s-7#2+12A+10HS	43	8	14	17	20	33	1. 65	1. 61	0. 27	0. 23	39

NOTE:

- 1.The data is based on calculation by Window 7.4 under NFRC standard conditions.
- 2.The actual performance data of products may slightly differ from the data listed.
- 3.Note: C-Clear glass ;A-Air space ;Ar-Argon filled;HS--heat strength;FT-Full tempered.
- 4.Frit effect is estimated.The performance data please refers to the non- frit glass.
- 5.隔声数据参考美国viracon网站数据, 仅供参考, 最终需以实测为准!

NO:1 SUM:1

Trade Package No:	41151	Subcontractor:	YUANDA AUSTRALIA
Aconex Document No:	CSWSMP-YUA-SMS-FA-SAM-100009	Date:	25 th May 2020
Description of Product/Material:	Glass Type BS1 Single laminated glass unit comprising: - 10mm Low Iron heat strengthened outer laminate - 1.52mm Clear PVB interlayers - 10mm Low Iron heat strengthened inner laminate Locations of use: - Balustrade glass (Level 9)		
Submission Type:	Sample / Technical Submission / Prototype / Mock-Up *		
Specification Reference/s:	Surface Design Façade Performance Specification – Cl. 4.4.1 – 4.4.5, Appendix A & Appendix B.		

Material/Product Type	Manufacturer	Model	Model Ref / Colour
Insulating glass unit	Tianjin CSG Energy Conservation Glass Co Ltd	Glass Type BS1	Uncoated laminated glass

Country of Origin	Distributor Name
CHINA	N/A

Is this Submission an Approved Equivalent or Substitution? <i>If Yes provide related reference to substitution approval in technical data and attach</i>	Yes / No*
Does Product contain multiple materials?	Yes / No*
Does Product/Material contain any material deemed hazardous under Australian law?	Yes / No*
Are there Mandatory Certification Requirements (e.g. WaterMark)? <i>If Yes current certificate to be attached</i>	Yes / No*

ATTACHMENTS (NOTE: TECHNICAL DATA MUST BE ATTACHED TO ALL SUBMISSIONS AND DESCRIBED BELOW)**Technical Data (e.g. Relevant Certificates of Conformance; Test Reports; Performance Data; MSDS)**

- 1) Tianjin CSG – Performance datasheet (dated 09/04/20) Item number 4.

Brochures and Marketing information	Other (e.g. images, drawings, sketches)
N/A	Sample photo

APPROVAL (NOTE: DIGITAL STAMPS/SIGNATURES ACCEPTED WHEN ISSUED VIA ACONEX WORKFLOW)

Architect (Tzannes)	Façade Consultant (Surface Design)
Name.....	Name.....
Role.....	Role.....
SignatureDate.....	SignatureDate.....
ESD Consultant (Lendlease Integrated Solutions)	Client (Macquarie)
Name.....	Name.....
Role.....	Role.....
SignatureDate.....	SignatureDate.....

* - Delete as appropriate

(All written attachments are to be tagged or labelled with above information be saved in a format where the full text contents are is searchable – i.e. not a photographic scan. Attachments should be compiled into a single PDF with the completed Sample and Technical Submission Approval form as the cover sheet)

Please submit to Lendlease on completion via Aconex “Technical Data” or “Sample” (for physical samples) document type - Client’s representative to review and approve submission on Aconex and sign label or tag on physical sample to indicate approval (where submitted).





天津南玻节能玻璃有限公司
TIANJIN CSQ ENERGY CONSERVATION GLASS CO., LTD.

项目名称	Metro Martin Place South Tower			检验日期	2020/4/15
Product Name					
产品结构	10(Low iron)/1.52PVB/10(Low iron)				
Product Code					
产品性能	可见光透过率 T (%)	可见光反射率 R _f (%)	U (W/m ² .K)	Sc	
Performance					
客户签署					
signature					

样片及参数仅供参考!
Samples and parameters are for reference only!

室外面
Exterior Side



SHENYANG YUANDA ALUMINIUM INDUSTRY
ENGINEERING CO.,LTD.

Project	Metro Martin Place-South Tower		
Sample	Glass Sample	Sample No.	BS1-A
Supplier	CSG	Origin	China
Description	10mm Low Iron HS 1.52 Clear PVB 10mm Low Iron HS		
Remarks			
Approved by			

CHINA SOUTHERN GLASS HOLDING CO.,LTD

PERFORMANCE DATA OF GLASS PRODUCT

2020/4/9

Fuyuan Road, Wuqing Development Area, Tianjin, China.Tel: +86-22-82109988 Fax: +86-22-82109989

PROJECT: Metro Martin Place North Tower

NO	DESCRIPTION OF SAMPLE	Visible Light (%)			Solar Energy(%)			U-Value		Shading Coefficient	SHGC	STC
		Trans	Reflect		Trans	Reflect		winter night	Summer daylight			dB
			Out	In		out	In	W/M ² .K				
1	10HS (Crystal grey) SJ65s-7#2+12A+5HS/1. 52PVB/5HS	33	6	10	12	11	28	1. 6	1. 55	0. 23	0. 2	41
2	5HS (Crystal grey) /1. 52PVB/5HS (SJ65s-1) #4+12A+5HS/1. 52PVB/5HS	45	8	10	17	16	28	1. 58	1. 53	0. 28	0. 24	43
3	6HS (Crystal grey) SJ65s-7#2+12A+10HS	43	8	10	17	19	32	1. 63	1. 58	0. 27	0. 23	39
4	10HS (Low iron) /1. 52PVB/10HS (Low iron)	90	9	9	78	8	8	5. 26	4. 81	0. 95	0. 83	40
5	8HS (Crystal Grey) TT65s-7#2+12A+5HS/3. 04PVB/5HS	39	8	14	15	16	28	1. 61	1. 57	0. 25	0. 22	41
6	5HS (Crystal Grey) /3. 04PVB/5HS (Crystal Grey) +12A+8HS (TT65s-1) #5	34	8	11	13	10	35	1. 6	1. 56	0. 3	0. 26	41
7	6HS (Crystal Grey) TT65s-7#2+12A+10HS	43	8	14	17	20	33	1. 65	1. 61	0. 27	0. 23	39

NOTE:

- 1.The data is based on calculation by Window 7.4 under NFRC standard conditions.
- 2.The actual performance data of products may slightly differ from the data listed.
- 3.Note: C-Clear glass ;A-Air space ;Ar-Argon filled;HS--heat strength;FT-Full tempered.
- 4.Frit effect is estimated.The performance data please refers to the non- frit glass.
- 5.隔声数据参考美国viracon网站数据, 仅供参考, 最终需以实测为准!

NO:1 SUM:1