

**Certification Body:** 



SAI Global Certification Services Pty Limited

(ACN 108 716 669) Trading as "SAI Global"

JAS-ANZ Accreditation No. Z1440295AS

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#### **Certificate Holder:**



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SAI Global Certification Services

Heather Mahon Global Head of Technical Services SAI Global Assurance Certificate number: CM20029/1

#### THIS TO CERTIFY THAT

## AIR-CELL Insulbreak®55, Insulbreak®55 Wide, Insulbreak®70, Insulbreak®90 & Insulwhite®

### Type and/or use of product:

Reflective pliable building membranes for the provision of thermal insulation in roofs & walls.

For detailed list of Products Use & Description refer to A1 in Appendix A

### **Description of product:**

Insulbreak®55, Insulbreak®55 Wide, Insulbreak®70, Insulbreak®90 are fibre-free, thermo reflective insulations comprising a cross-linked, closed-cell core sandwiched with an anti-glare foil facing on one side and a plain foil facing on the other side

**Insulwhite®** is a fibre-free thermo reflective insulation, sandwiched by a highly reflective facing on the upper side and a white facing on the other side.

### COMPLIES WITH THE FOLLOWING BCA PROVISIONS AND STATE OR TERRITORY VARIATION(S)

**BCA 2019** 

	Volume One		Volume Two		
Performance Requirement(s)	FP1.4	Damp and weatherproofing - Weatherproofing	P2.2.2	Damp and weatherproofing – Weatherproofing	
Deemed-to-Satisfy Provision(s):	Spec. C1.10 clause 7	Fire Hazard Properties - Other materials	3.7.1.2	Fire properties for materials and construction - Fire hazard properties	
	F6.2(a)(i)(ii) & (iv)	<b>Condensation Management</b> – Pliable Building Membrane	3.8.7.2(a)(i)(ii) & (iv)	Condensation Management – Pliable Building Membrane	
	J0.2(c)*	Energy Efficiency – Thermal Breaks *Only Applicable for Insulbreak®70 & Insulbreak®90	3.12.1.1*	<b>Building fabric</b> - Building fabric thermal insulation. (must be used in conjunction with other building	
	J1.2	<b>Building fabric</b> - Thermal construction — general (must be used in conjunction with other building elements to achieve a total R value outlined in clause J1.3 'Roof and		elements to achieve a total R value outlined in clause 3.12.1.2 'Roofs' and 3.12.1.4 'External walls') subject to state and territory variations.	

Quintin Kleyn – Unrestricted Building Certifier

Date of issue: 25/02/2020

Date of expiry: 25/02/2023







Certificate number: CM20029/1

## **Certificate of Conformity**

		subject to state and territory variations.		*Only <b>Insulbreak®70 &amp; Insulbreak®90</b> are suitable for use as a 'Thermal Break'
State or territory	NSW Spec.	Fire hazard properties	NSW-3.12	ENERGY EFFICIENCY
variation(s):	C1.10 NSW 7	Other materials		In New South Wales, Part 3.12 does not apply.
	NSW Section J	Section J is replaced with NSW Section J which consists of two (2) subsections:  • J(A) Energy Efficiency – Class 2 buildings & Class 4 part		Note: The New South Wales Additions contain energy efficiency measures that apply in New South Wales to support and complement BASIX.
		(BASIX)  • J(B) Energy Efficiency – Class 3 & Class 5 to 9 buildings	NT-3.12	In the Northern Territory, Part 3.12 is replaced with BCA 2009 Part 3.12.
	NT Section J	For a Class2 building and a Class4 part of a building, Section J is replaced with Section J of BCA 2009. Section J does not apply to Class 3 and 5-9 buildings.	SA-3.12	In South Australia, for the purposes of this Part, a sunroom or the like is deemed to be a Class 10a building and must comply with 3.12.1.6.
		In Queensland, for a Class 2 building, Section J is replaced		

#### SUBJECT TO THE FOLLOWING LIMITATIONS AND CONDITIONS AND THE PRODUCT TECHNICAL DATA IN APPENDIX A AND EVALUATION STATEMENTS IN APPENDIX B

#### Limitations and conditions:

## 1. The Product must be installed in accordance with the relevant Kingspan Insulated Panels Product Data Sheets, Installation Guides & Drawings as listed in section A5 of this certificate.

with Section J of BCA 2009

2. Each product must be used for its intended purpose.

OLD Section J

- 3. \* Only Insulbreak®70 & Insulbreak®90 are suitable for use as a 'Thermal Break'
- 4. These products are classified as 'Class 2 Vapour barrier' and are not suitable for use as a 'Vapour Permeable Membrane' for climate zone 6, 7 & 8 as per NCC BCA 2019 Part F6.2(a)(iii).

Building classification/s:

Volume 1 – Class 2 to Class 9 buildings

Volume 2 – Class 1 and Class 10 buildings

Scope of certification: The CodeMark Scheme is a building product certification scheme. The rules of the Scheme are available at the ABCB website www.abcb.gov.au. This Certificate of Conformity is to confirm that the relevant requirements of the Building Code of Australia (BCA) as claimed against have been met. The responsibility for the product performance and its fitness for the intended use remain with the certificate holder. The certification is not transferrable to a manufacturer not listed on Appendix A of this certificate.

Ceiling Construction' and J1.5 'Walls and Glazing')

**Disclaimer:** The Scheme Owner, Scheme Administrator and Scheme Accreditation Body do not make any representations, warranties or guarantees, and accept no legal liability whatsoever arising from or connected to, the accuracy, reliability, currency or completeness of any material contained within this certificate; and the Scheme Owner, Scheme Administrator and Scheme Accreditation Body disclaim to the extent permitted by law, all liability (including negligence) for claims of losses, expenses, damages and costs arising as a result of the use of the product(s) referred to in this certificate.



### **APPENDIX A – PRODUCT TECHNICAL DATA**

## A1 Type and intended use of product

Product	Type & Intended use of product		
Insulwhite®	White faced pliable thermo reflective cellular insulation. Roof insulation fixed to the underside of the rafters, acting as an Insulation layer, Vapour barrier & Reflective barrier.		
Insulbreak®55	Pliable thermo reflective cellular insulation. The roof insulation fixed either under or over roof battens, acting as an Insulation layer, Vapour barrier, Water		
Insulbreak®55 Wide	barrier & Reflective barrier.		
Insulbreak®70	Pliable thermal reflective cellular insulation. For use in pitch roofs, walls with steel or timber framing, providing a thermal break in steel framed construction. Only Insulbreak®70 & Insulbreak®90 are suitable for use as a 'Thermal Break'		
Insulbreak®90			

## **A2** Description of product

Product	Description of product
Insulwhite®	Comprises a cross-linked, closed cell insulation core sandwiched by a highly reflective foil facing on the upper side and a white facing on the other side.  Insulwhite® provides a protective, corrosive resistant thermal insulation for use where a white ceiling-like appearance is desired.
Insulbreak®55 Insulbreak®55 Wide	A fibre-free, thermo reflective insulations comprising a cross-linked, closed-cell core sandwiched with an anti-glare foil facing on one side and a plain foil facing on the other side.
Insulbreak®70 Insulbreak®90	A fibre-free, thermo reflective insulations comprising a cross-linked, closed-cell core sandwiched with an anti-glare foil facing on one side and a plain foil facing on the other side.

## A3 Product specification

The products are collectively described as: "Thermo-reflective insulation blanket comprised of an encapsulated air cell structure between a layer of reflective aluminium foil and an anti-glare foil."

The Kingspan products consist of the following compositions:



Product Name	Insulwhite®	Insulbreak®55	Insulbreak®55 Wide	Insulbreak®70	Insulbreak®90
Nominal Product Thickness	5.5mm	5.5mm	5.5mm	7.2mm	9.0mm
Product Dimensions (Roll Size)	1350 mm x 22.25 m (30 m <sub>2</sub> )	1350 mm x 22.25 m (30 m <sub>2</sub> )	1350 mm x 22.25 m (30 m <sub>2</sub> )	1350 mm x 22.25 m (30 m <sub>2</sub> )	1350 mm x 22.25 m (30 m <sub>2</sub> )
Declared Material R-value	R0.15m <sup>2</sup> .K/W at 23°C	R0.15m <sup>2</sup> .k/W at 23°C	R0.15m <sup>2</sup> .k/W at 23°C	R0.20m <sup>2</sup> .k/W at 23°C	R0.25m <sup>2</sup> .k/W at 23°C
Emittance	≤ E0.03 – IR Reflective	≤ E0.05 – IR Reflective			
	(Reflective face)	(Anti-Glare Face)	(Anti-Glare Face)	(Anti-Glare Face)	(Anti-Glare Face)
	N/A – IR Non-Reflective	≤ E0.03 – IR Reflective			
	(White face)	(Reflective Face)	(Reflective Face)	(Reflective Face)	(Reflective Face)
Flammability Index (AS 1530.2)	≤ 5 - Low				
Vapour Control (ASTM E96)	Vapour Barrier – Class 2				
Electrical Conductivity (AS/NZS	Resistance < 10MΩ –				
200.1:2017)	Electrically Conductive				

### A4 Manufacturer and manufacturing plant(s)

Manufacturer - Kingspan Insulation Pty Ltd, 25 O'herns Road, Somerton VIC 3062 Manufactured in Taren Point, NSW, Australia

### **A5 Installation requirements**

Refer to the following;

- 1. Air-cell Insulwhite® White-Faced Thermo Reflective Insulation KIAU0048, Issue 8, Sept 2019.
- 2. Air-cell Insulbreak® Thermal Break Solution (Insulbreak®55, Insulbreak®55 Wide, Insulbreak®70 & Insulbreak®90) KIAU0040, Issue 15, Oct 2019.

#### A6 Other relevant technical data

- Surface Optics Corporation Test for Infra-Red emissivity. Job No. 4962MP 'Antiglare Foil' (dated 29/06/2017). This report provides the results of emissivity data measured to ASTM E-408 for Insulwhite® (TB055W), Insulbreak®55 (TB055) & Insulbreak®55 Wide (TB055-wide).
- Surface Optics Corporation Test for Infra-Red emissivity. Job No. 4962MP 'Silver Foil' (dated 29/06/2017). This report provides the results of emissivity data measured to ASTM E-408 for Insulwhite® (TB055W), Insulbreak®55 (TB055) & Insulbreak®55 Wide (TB055-wide).
- Surface Optics Corporation Test for Infra-Red emissivity. Job No. 4419MP 'White Face' (dated 07/10/2014). This report provides the results of emissivity data measured to ASTM E-408 for Insulwhite® (TB055W).



#### **APPENDIX B – EVALUATION STATEMENTS**

#### **B1** Evaluation methods

The system has been assessed as complying with the identified Performance Requirements of the BCA 2019. This involved a review of product specifications, test reports, installation manuals, and associated documentation.

- 1. Damp and Weatherproofing Assessment:
  - A2.2(2)(a) / A5.2(1)(d) A report issued by an Accredited Testing Laboratory 'AWTA' Australian Wool Testing Authority (NATA accreditation No. 985) & R & D Services (IAS accreditation No. TL-566)
  - A2.2(2)(a) / A5.2(1)(e) A report from an appropriately qualified person 'AWTA' Australian Wool Testing Authority & 'Acronem Consulting Australia Pty Ltd'
- 2. <u>Condensation Management assessment:</u>
  - A2.2(2)(a) / A5.2(1)(d) A report issued by an Accredited Testing Laboratory 'AWTA' Australian Wool Testing Authority (NATA accreditation No. 985) & R & D Services (IAS accreditation No. TL-566)
  - A2.2(2)(a) / A5.2(1)(e) A report from an appropriately qualified person 'Acronem Consulting Australia Pty Ltd'
- 3. Fire Hazard Properties assessment:
  - A2.3(2)(a) / A5.2(1)(d) A report issued by an Accredited Testing Laboratory 'AWTA' Australian Wool Testing Authority (NATA accreditation No. 1356)
- 4. <u>Energy Efficiency Assessment:</u>
  - A2.3(2)(a) / A5.2(1)(d) A report issued by an Accredited Testing Laboratory 'AWTA' Australian Wool Testing Authority (NATA accreditation No. 1356) & R&D Services, Inc. (IAS accreditation No. TL-566)
  - A2.3(2)(a) / A5.2(1)(e) A report from an appropriately qualified person Acronem Consulting Australia Pty Ltd
  - A2.3(2)(a) / A5.2(1)(f) Another form of documentary evidence, such as but not limited to a Product Technical Statement Kingspan Insulation Pty Ltd

## **B2** Reports

<b>Evaluation methods</b>	Related Reports		
Damp and Weatherproofing Assessment	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 37		
Condensation Management assessment	7, 14 ,15, 18, 24, 37		
Fire Hazard Properties assessment	26, ,27, 28, 29 ,30		
Energy Efficiency Assessment	31, 32 ,33 ,34 ,35 ,36		

- 1. Australian Wool Testing Authority Ltd Determination of California Bearing Ratio (CBR) Plunger Method. Test No. 16-000627 (dated 23/02/2016). This report provides the results of testing to AS3706.4-2012 (Insulwhite®).
- 2. Australian Wool Testing Authority Ltd Test for Edge Tearing Resistance of Building Membranes and Underlays. Test No. 16-000625 (dated 23/02/2016). This report provides the results of testing to AS/NZS 4200.1-1994 (Insulwhite®).



- 3. **Australian Wool Testing Authority Ltd Test for Resistance to Dry Delamination. Test No. 16-000626 (dated 18/02/2016)**. This report provides the results of testing to AS/NZS 4201.1-1994 and states the product obtained a "PASS" (Insulwhite®).
- 4. Australian Wool Testing Authority Ltd Test for Resistance to Shrinkage of Building Membranes and Underlays. Test No. 16-000623 (dated 10/03/2016). This report provides the results of testing to AS/NZS 4201.3-1994 (Insulwhite®).
- 5. Australian Wool Testing Authority Ltd Test for Resistance to Water Penetration of Building Membranes and Underlays. Test No. 16-000620 (dated 19/02/2016). This report provides the results of testing to AS/NZS 4201.4-1994 (Insulwhite®).
- 6. **Australian Wool Testing Authority Ltd Pliable Building Membranes and underlays Surface Water Absorbency. Test No. 16-000621 (dated 18/02/2016).** This report provides the results of testing to AS/NZS 4201.6-1994 (Insulwhite®).
- 7. Australian Wool Testing Authority Ltd Test for Water Vapour Transmission Water Method. Test No. 19-006028 (dated 22/11/2019). This report provides the results of testing to ASTM E96-2016 (Insulwhite®).
- 8. Australian Wool Testing Authority Ltd Determination of California Bearing Ratio (CBR) Plunger Method. Test No. 16-005596 (dated 20/10/2016). This report provides the results of testing to AS3706.4-2012 (Glareshield XL renamed Insulbreak®55 & Glareshield XL Wide renamed Insulbreak®55 Wide).
- 9. **Australian Wool Testing Authority Ltd Test for Edge Tearing Resistance of Building Membranes and Underlays. Test No. 16-005508 (dated 26/10/2016).** This report provides the results of testing to AS/NZS 4200.1-1994 (Glareshield XL renamed Insulbreak®55 & Glareshield XL Wide renamed Insulbreak®55 Wide).
- 10. **Australian Wool Testing Authority Ltd Test for Resistance to Dry Delamination. Test No. 16-005507 (dated 21/10/2016)**. This report provides the results of testing to AS/NZS 4201.1-1994 and states the product obtained a "PASS" (Glareshield XL renamed Insulbreak®55 & Glareshield XL Wide renamed Insulbreak®55 Wide).
- 11. **Australian Wool Testing Authority Ltd Test for Resistance to Shrinkage of Building Membranes and Underlays. Test No. 16-005509 (dated 17/11/2016)**. This report provides the results of testing to AS/NZS 4201.3-1994 (Glareshield XL renamed Insulbreak®55 & Glareshield XL Wide renamed Insulbreak®55 Wide).
- 12. Australian Wool Testing Authority Ltd Test for Resistance to Water Penetration of Building Membranes and Underlays. Test No. 16-005511 (dated 27/10/2016). This report provides the results of testing to AS/NZS 4201.4-1994 (Glareshield XL renamed Insulbreak®55 & Glareshield XL Wide renamed Insulbreak®55 Wide).
- 13. **Australian Wool Testing Authority Ltd Pliable Building Membranes and underlays Surface Water Absorbency. Test No. 16-005510 (dated 21/10/2016).** This report provides the results of testing to AS/NZS 4201.6-1994 (Glareshield XL renamed Insulbreak®55 & Glareshield XL Wide renamed Insulbreak®55 Wide).
- 14. Australian Wool Testing Authority Ltd Test for Water Vapour Transmission Water Method. Test No. 19-006020 (dated 15/11/2019). This report provides the results of testing to ASTM E96-2016 (Insulbreak®55).
- 15. **R&D Services Test for Water Vapour Transmission. Test No. RD17080-R1 (dated 15/02/2017)**. This report provides the results of testing to ASTM E96-2012 (Glareshield XL Wide renamed Insulbreak®55 Wide).
- 16. Australian Wool Testing Authority Ltd Test for Resistance to Shrinkage of Building Membranes and Underlays. Test No. 18-002073 (dated 11/05/2018). This report provides the results of testing to AS/NZS 4201.3-1994 (Permishield 65 Properties comparable to Insulbreak 65 Renamed Insulbreak 70).
- 17. Australian Wool Testing Authority Ltd Tests for Resistance to Water Penetration of Building Membranes and Underlays, Determination of California Bearing Ratio (CBR)

  Plunger Method, Resistance to Dry Delamination, Pliable Building Membranes and underlays Surface Water Absorbency, Edge Tearing Resistance of Building Membranes and



Underlays, Water Vapour Transmission Water Method, Resistance to Shrinkage of Building Membranes and Underlays, . Test No. 17-003014 (dated 24/08/2017). This report provides the results of testing to AS/NZS 4201.4-1994, AS 3706.4-2012, AS/NZS 4201.1-1994, AS/NZS 4201.6-1994, AS 4200.1-1994, ASTM E96-2012, AS/NZS 4201.3-1994 (Insulbreak 65 – Renamed Insulbreak®70).

- 18. Australian Wool Testing Authority Ltd Test for Water Vapour Transmission Water Method. Test No. 19-006073 (dated 12/12/2019). This report provides the results of testing to ASTM E96-2016 (Insulbreak®70).
- 19. Australian Wool Testing Authority Ltd Determination of California Bearing Ratio (CBR) Plunger Method. Test No. 17-003728 (dated 20/07/2017). This report provides the results of testing to AS3706.4-2012 (Insulbreak 80 Renamed Insulbreak 90).
- 20. Australian Wool Testing Authority Ltd Test for Edge Tearing Resistance of Building Membranes and Underlays. Test No. 17-003730 (dated 20//07/2017). This report provides the results of testing to AS/NZS 4200.1-1994 (Insulbreak 80 Renamed Insulbreak®90).
- 21. Australian Wool Testing Authority Ltd Test for Resistance to Shrinkage of Building Membranes and Underlays. Test No. 17-003733 (dated 01/08/2017). This report provides the results of testing to AS/NZS 4201.3-1994 (Insulbreak 80 Renamed Insulbreak®90).
- 22. **Australian Wool Testing Authority Ltd Test for Resistance to Water Penetration of Building Membranes and Underlays. Test No. 17-003727 (dated 19/07/2017)**. This report provides the results of testing to AS/NZS 4201.4-1994 (Insulbreak 80 Renamed Insulbreak®90).
- 23. **Australian Wool Testing Authority Ltd Pliable Building Membranes and underlays Surface Water Absorbency. Test No. 17-003731 (dated 19/07/2017).** This report provides the results of testing to AS/NZS 4201.6-1994 (Insulbreak 80 Renamed Insulbreak®90).
- 24. Australian Wool Testing Authority Ltd Test for Water Vapour Transmission. Test No. 19-006053 (dated 18/11/2019). This report provides the results of testing to ASTM E96-2012 (Insulbreak®90).
- 25. **Australian Wool Testing Authority Ltd Test for Resistance to Dry Delamination. Test No. 17-003729 (dated 18/06/2017)**. This report provides the results of testing to AS/NZS 4201.1-1994 and states the product obtained a "PASS" (Insulbreak 80 Renamed Insulbreak 90).
- 26. **Australian Wool Testing Authority Ltd Test for Flammability of Materials. Test No. 18-007585 (dated 11/01/2019)**. This report provides the results of testing to AS 1530.2-1993 Part 2, and specifies the product obtained a Flammability Index of 1. (Insulwhite®).
- 27. **Australian Wool Testing Authority Ltd Test for Flammability of Materials. Test No. 18-007584 (dated 15/01/2019)**. This report provides the results of testing to AS 1530.2-1993 Part 2, and specifies the product obtained a Flammability Index of 1. (Glareshield XL renamed Insulbreak®55).
- 28. Australian Wool Testing Authority Ltd Test for Flammability of Materials. Test No. 18-007583 (dated 15/01/2019). This report provides the results of testing to AS 1530.2-1993 Part 2, and specifies the product obtained a Flammability Index of 1. (Glareshield XL Wide renamed Insulbreak®55 Wide).
- 29. **Australian Wool Testing Authority Ltd Test for Flammability of Materials. Test No. 18-007576 (dated 04/01/2019)**. This report provides the results of testing to AS 1530.2-1993 Part 2, and specifies the product obtained a Flammability Index of 1. (Insulbreak 65 Renamed Insulbreak®70).
- 30. Australian Wool Testing Authority Ltd Test for Flammability of Materials. Test No. 18-007575 (dated 04/01/2019). This report provides the results of testing to AS 1530.2-1993 Part 2, and specifies the product obtained a Flammability Index of 1. (Insulbreak 80 Renamed Insulbreak®90).



- 31. **Kingspan Thermal Value Summary Report (Thermal Value Summary Report 5.5mm dated 02/10/2019)** (Insulwhite®, Insulbreak®55 & Insulbreak®55 Wide) *This report provides a Thermal value summary Report in conformance with AS/NZS 4859.1:2018 clause 2.3.3.9, based on test reports provided by AWTA Product Testing Test Report No. 18-007617, 18-007618, 18-007619, 18-007622, 18-007623, 18-007624, 18-007625, 18-007626 for Kingspan Kooltherm (NATA accreditation No. 1356). These reports provide results of testing to ASTM C518-2017.*
- 32. **Kingspan Thermal Value Summary Report (Thermal Value Summary Report 7.2mm dated 03/10/2019)** (Insulbreak®70) This report provides a Thermal value summary Report in conformance with AS/NZS 4859.1:2018 clause 2.3.3.9, based on test reports provided by AWTA Product Testing Test Report No. 18-007612, 18-007613, 18-007614, 18-007615, 18-007616 for Kingspan Kooltherm (NATA accreditation No. 1356). These reports provide results of testing to ASTM C518-2017.
- 33. **Kingspan Thermal Value Summary Report (Thermal Value Summary Report 9.0mm dated 04/10/2019)** (Insulbreak®90) *This report provides a Thermal value summary Report in conformance with AS/NZS 4859.1:2018 clause 2.3.3.9, based on test reports provided by AWTA Product Testing Test Report No. 18-007606, 18-007607, 18-007609, 18-007610, 18-007611 for Kingspan Kooltherm (NATA accreditation No. 1356). These reports provide results of testing to ASTM C518-2017.*
- 34. Australian Wool Testing Authority Ltd Test for Resistance to Surface Corrosion and Wet Delamination at Elevated Ambient Temperatures (Reflective Insulations). Test No. 17-003724 (dated 10/08/2017). This report provides the results of testing to AS/NZS 4859.1-2002 and indicates a "PASS" for Wet Delamination and a "PASS" for Surface Corrosion (Insulwhite® & Glareshield XL renamed Insulbreak®55).
- 35. **James M Fricker Pty Ltd Report i297a (dated 19/05/2009)** This report contains the results of testing to AS/NZS 4859.1 and the consequential calculations to determine the thermal resistance of the materials.
- 36. **R&D Services Review of Thermal Insulation Evaluations. (dated 08/06/2009May 8 2009).** This report contains confirmation that the results of testing to AS/NZS 4859.1 and the thermal resistance of the materials has been appropriately undertaken.
- 37. Acronem Consulting Australia Pty Ltd. Kingspan Insuliner NCC Compliance Appraisal (dated 17/05/2016) This appraisal describes a combined performance solution and deemed-to-satisfy solution in as much that the product would contribute as an Insulation layer, Vapour barrier & Reflective barrier satisfying the relevant performance requirements of the NCC when installed as part of a building solution.