

Thermoplast 993F White (Sarking-Type Material)

Refer to product table below for applicable product codes covered by this document

Issue I

Product Type & Application

Thermoplast 993F White is a Medium Duty sarking-type product for use in applications requiring a white aesthetic finish. It is a reinforced, paper-based laminate with an inward facing white decorative lacquer and outward facing antiglare foil; bonded using a fire-retardant adhesive. This product is a Water Barrier and Class 2 Vapour Barrier.

It can be installed as a facing material for Bradford Glasswool Building Blanket; either adhered or laid separately. See page 5 of this document for more details.

Compliance with the NCC

For use in Australia, when correctly specified and installed, this pliable building membrane:

NCC 2025

- **Material Performance Properties** - Meets the requirements of the NCC 2025 Volume 1 F1D13 for sarking-type material through compliance with AS 4200.1.
- **Condensation Control** - Meets the requirements of NCC 2025 Volume 1 F8D3, ABCB Housing Provisions Standard 10.8.1 for pliable building membranes or sarking-type materials through compliance with AS 4200.1.
- **Non- Combustible Sarking-Type Material Exemption** - This product may be used in accordance with the non-combustible sarking-type material exemption stated in NCC 2025 Volume 1 C2D10(6)(f) and NCC 2025 Volume 2 H3D2(1)(f) – it does not exceed 1mm in thickness and has a Flammability Index ≤ 5 .
- **BAL and Fire Hazard Properties** - Where sarking is required by AS 3959 for construction of buildings in bushfire-prone regions BAL 12.5-FZ, this product meets the requirements of section 3.10. It also meets the fire hazard property requirements for sarking-type materials in all locations except exposed installations in fire control rooms or fire-isolated exits, in NCC 2025 Volume 1 S7C7. The product meets these requirements by having a flammability index ≤ 5 .

NCC 2022

- **Material Performance Properties** - Meets the requirements of the NCC 2022 Volume 1 Amend. 2 F3D3 for sarking-type material through compliance with AS 4200.1.
- **Non- Combustible Sarking-Type Material Exemption** - This product may be used in accordance with the non-combustible sarking-type material exemption stated in NCC 2022 Volume 1 Amend. 2 C2D10(6)(f) and NCC 2022 Volume 2 Amend. 2 H3D2(1)(f) – it does not exceed 1mm in thickness and has a Flammability Index ≤ 5 .

Compliance with the NCC cont. NCC 2022 cont.

- **BAL and Fire Hazard Properties** - Where sarking is required by AS 3959 for construction of buildings in bushfire-prone regions BAL 12.5-FZ, this product meets the requirements of section 3.10. It also meets the fire hazard property requirements for sarking-type materials in all locations except exposed installations in fire control rooms or fire-isolated exits, in NCC 2022 Volume 1 Amend. 2 S7C7. The product meets these requirements by having a flammability index ≤ 5 .

NCC 2019

- **Material Performance Properties** - Meets the requirements of the NCC 2019 Volume 1 Amend. 1 F1.6 for sarking-type material through compliance with AS 4200.1.
- **Non-Combustibility Sarking-Type Material Exemption** - This product may be used in accordance with the non-combustible sarking-type material exemption stated in NCC 2019 Volume 1 Amend. 1 C1.9(e)(vi) and Volume 2 Amend. 1 3.7.1.1(f) – it does not exceed 1mm in thickness and has a Flammability Index ≤ 5 .
- **BAL and Fire Hazard Properties** - Where sarking is required by AS 3959 for construction of buildings in bushfire-prone regions BAL 12.5-FZ, this product meets the requirements of section 3.10. It also meets the fire hazard property requirements for sarking-type materials in all locations except exposed installations in fire control rooms or fire-isolated exits, in NCC 2019 Volume 1 Amend. 1 Specification C1.10. The product meets these requirements by having a flammability index ≤ 5 .

For details on compliance when this facing material is used in conjunction with a Bradford bulk insulation board or blanket, refer to the individual Product Technical Statement. For details on use with CSR Bradford Glasswool Building Blanket refer to page 5 of this document.

Conditions of Storage & Maintenance

- Store in the original packaging in a cool, dry area, away from UV light (direct sunlight).
- Do not pressure clean or use mineral based cleaners on this product.

Refer to the product SDS at [csrbradford.com.au](https://www.csrbradford.com.au) for more information.

Thermoplast 993F White (Sarking-Type Material)

Specific Design or Installation Instructions

- Isolate power before installation.
- **WARNING:** This product contains aluminium foil which conducts electricity. To avoid electrocution, care should be taken to ensure that this product or conductive fasteners used to secure this product, do not come into contact or close proximity with electrical wiring during installation or use.
- Suitable for use as a facing material for bulk insulation.
- Compatible for use with metal cladding, masonry, timber, slate, concrete and terracotta tiles.
- **Metal Roof Application Guidance:** This product should be provided with 40mm of sag between each batten/purlin to prevent contact with the underside of the roof sheet. In cold climates or where there is a risk of condensation formation, it is recommended that a faced roofing blanket is considered as an alternative solution.
- When installed for vapour and/or air control, this product should be sealed at overlaps (minimum 50mm), end laps, discontinuities and penetrations by suitable means such as heat and moisture resistant adhesive tape.
- When installed for water control, this product must have overlaps of minimum 150mm, or 50mm and be taped on the exterior face.
- Improved water control at vertical joints can be achieved by sealing overlaps, end laps, discontinuities and penetrations by suitable means such as heat and moisture resistant adhesive tape with a minimum 50mm overlap.
- **Application Suitability:** This product is a Class 2 Vapour Barrier and is suitable for installation on the exterior side of the building frame in-
 - NCC 2019 Climate Zones 1 to 5,
 - NCC 2022 Climate Zones 1 to 3 and
 - NCC 2025 Climate Zones 1-3 in some construction types where a vapour barrier is specified.
 Always check cladding manufacturer's guidance to confirm compatibility and refer to the Condensation Risk Consideration section on this document for further guidance.
- Always follow the installation instructions in AS 4200.2, and those available on the Bradford website. For inclusion in BAL (Bushfire Attack Level) classified buildings, additionally adhere to the installation requirements of AS 3959.
- This product should be installed with the semi-reflective or antiglare side facing outward.
- **Condensation Risk Consideration:** This product is classified as a vapour barrier and is recommended to be positioned on the warm side of the construction to reduce the risk of condensation entrapment within the structure. As there are many factors which can influence condensation risk it is highly recommended that designers undertake a hygrothermal analysis to further reduce condensation risk. If in doubt, consider using a Class 4 Bradford Enviroseal vapour permeable product on the cold side of the construction.

Specific Design or Installation Instructions cont.

- To maintain the water barrier properties of the material it should not be punctured, creased, crushed, sharply folded or dragged over the building structure during installation.

For general installation guidance refer to the product installation guide at csrbradford.com.au

Evidence of Suitability

- Testing of the sarking-type material only to AS 4200.1 across the following reports –
 - AWTa Report 17-001857 – *Resistance to Dry Delamination.*
 - AWTa Report 17-001857 – *Resistance to Wet Delamination.*
 - AWTa Report 17-001857 – *Moisture Shrinkage.*
 - Opal Report 27157-2 – *Folding Endurance.*
 - AWTa NATA Report 24-004040 – *Tensile Strength.*
 - AWTa NATA Report 24-004040 – *Edge Tearing.*
 - R&D Services Report RD17304, AWTa Report 21-000529 – *Emittance Classification.*
 - AWTa Report 21-000529 – *Vapour Control Classification.*
 - AWTa Report 21-000529 – *Water Control Classification.*
 - Opal Research & Technology 28401 – *Air Barrier Classification.*
 - CSR Lab NATA Report NR-18201 – *Flammability Classification.*
 - CSR Lab Report R-20078 – *Thickness.*

Testing details apply to the sarking product only. For details of CSR Bradford-manufactured faced Glasswool or Rockwool completed products, refer to their individual Product Technical Statements, or to page 5 below for faced Glasswool Building Blanket.

Thermoplast 993F White (Sarking-Type Material)

Limitations of Use

- **IMPORTANT:** Do Not Modify This Product: Compliance with the evidence of suitability data referenced in this document is only achieved by the product or configuration listed in this PTS.
- **WARNING:** This product is not structural - Do not walk on this product or place/store building materials or equipment on this product.
- When combined with bulk insulation, the fire performance properties of the final system should be re-assessed by a certifying authority if the application is not defined on page 5 of this document, or in other Bradford PTSs.
- This product is not suitable for use in HVAC applications. Thermoseal® 750 HD is recommended for HVAC use.
- When used independently this product does not have a Group Number and is not suitable for use as an exposed wall or ceiling lining. Refer to page 5 of this document for details on use in such applications with CSR Bradford Glasswool Building Blanket.
- This product is a Class 2 Vapour Barrier, and when used as a wall wrap is not suitable where a vapour permeable pliable building membrane or sarking-type material is specified for use in-
 - Climate zones 6 to 8 in NCC 2019 Volume 1 Amend. 1 F6.2(a) and NCC 2019 Volume 2 Amend. 1 3.8.7.2(a),
 - Climate zones 4-8 in NCC 2022 Volume 1 Amend. 2 F8D3 and ABCB Housing Provisions Standard 2022 Amend. 2 10.8.1, or
 - Climate zones 4-8 and some construction types in climate zone 3 in NCC 2025 Volume 1 F8D3 and ABCB Housing Provisions Standard 2025 10.8.1.
 It is not suitable where the cladding manufacturer specifies a vapour permeable membrane.
- This product is not designed to withstand prolonged exposure to the elements - accordingly, the exterior cladding should be installed within 6 weeks in a wall application, or 2 weeks in a roof application. Products exposed during this period should be inspected for damage and repaired or replaced prior to installation of the exterior cladding to comply with the Product Warranty. Products exposed for longer than the recommended periods will not be covered by the Product Warranty.
- Additional mechanical fasteners should be considered for products exposed to harsh weather conditions prior to cladding.
- Products exposed to harsh weather conditions prior to cladding should be inspected for damage and replaced or repaired to ensure compliance with the Product Warranty.
- Prior to cladding, it is good practice to protect this product from UV exposure and harsh weather conditions which may cause damage.
- This product is not suitable for submersion in water or continuous contact with soil.
This foil facing product should not come into contact with wet concrete, or alkaline materials.

Thermoplast 993F White (Sarking-Type Material)

Applicable Product Codes

WIDTH (mm)	LENGTH (m)	m ² PER ROLL	WEIGHT (kg)	PRODUCT CODE
1350	60	81	32.99	183007

Additional Product Data – AS 4200.1

Duty Classification (AS 4200.1)	Medium Duty	
Tensile Strength (AS 1301.448s and AS 4200.1)	≥ 9.5 kN/m	Machine Direction
	≥ 6.0 kN/m	Lateral Direction
Edge Tear Resistance (TAPPI T470 and AS 4200.1)	≥ 65 N	Machine Direction
	≥ 65 N	Lateral Direction
Folding Endurance (AS 1301.423 and AS 4200.1)	Pass	
Water Control Classification (AS/NZS 4201.4 and AS 4200.1)	Water Barrier	
Vapour Control Classification (ASTM E96 and AS 4200.1)	Class 2 Vapour Barrier	
Air Control Classification (ISO 5636-5 and AS 4200.1)	Air Barrier	
Emittance Classification (AS/NZS 4201.5 and AS 4200.1)	Non-Reflective, >0.15	Inward Facing
	Semi-Reflective, >0.05 to ≤0.15	Outward Facing
Flammability Index (AS 1530.2 and AS 4200.1)	≤ 5 (Low)	
Electrical Conductivity (AS/NZS 3100 Mod. and AS 4200.1)	Conductive	
Resistance to Dry Delamination (AS/NZS 4201.1)	Pass	
Resistance to Wet Delamination (AS/NZS 4201.2)	Pass	
Moisture Shrinkage (AS/NZS 4201.3 and AS 4200.1)	≤ 0.5 %	
Thickness	< 1.0 mm	
Taping / Sealing	Overlaps and joins in the facing material should be taped using the recommended tape for a consistent colour finish.	

Thermoplast 993F White (Facing on Building Blanket)

Product Type & Application

Thermoplast 993F White is a Medium Duty facing product for use in applications requiring aesthetic properties. It is a reinforced, paper-based laminate with an inward facing white decorative lacquer and outward facing antiglare foil; bonded using a fire-retardant adhesive. This product is a Water Barrier and Class 2 Vapour Barrier.

It can be installed as a facing material for Bradford Glasswool Building Blanket as an exposed wall or ceiling lining; either adhered to the Glasswool Blanket in a CSR approved facility or laid separately with Bradford Building Blanket on site. This section details these applications.

Compliance with the NCC

For use in Australia, when correctly specified and installed, this product faced to a CSR Bradford Glasswool Building Blanket provides the following compliance:

NCC 2025

- **Thermal** - Refer to the CSR Bradford Glasswool Building Blanket PTS for details on thermal compliance of the insulation.
- **Fire Hazard Properties** - When used in specified CSR Bradford Glasswool systems detailed on this PTS only: This product achieves a Group Number and SMOGRA_{RC} in accordance with AS ISO 9705 and AS 5637.1. It may be used as an exposed internal wall or ceiling lining where specified by the NCC 2025 Volume 1 S7C4.
- **Fire Hazard Properties** - When used in specified CSR Bradford Glasswool systems detailed on this PTS only: This product meets the requirements of the NCC 2025 Volume 1 S7C7 for insulation materials. When assessed to AS/NZS 1530.3 this product does not exceed the 'Spread of Flame' or 'Smoke Developed' indices of Table S7C7.

NCC 2022

- **Thermal** - Refer to the CSR Bradford Glasswool Building Blanket PTS for details on thermal compliance of the insulation.
- **Fire Hazard Properties** - When used in specified CSR Bradford Glasswool systems detailed on this PTS only: This product meets the requirements of the NCC 2022 Volume 1 Amend. 2 S7C7 for insulation materials. When assessed to AS/NZS 1530.3 this product does not exceed the 'Spread of Flame' or 'Smoke Developed' indices of Table S7C7.
- **Fire Hazard Properties** - When used in specified CSR Bradford Glasswool systems detailed on this PTS only: This product achieves a Group Number and SMOGRA_{RC} in accordance with AS ISO 9705 and AS 5637.1. It may be used as an exposed internal wall or ceiling lining where specified by the NCC 2022 Volume 1 Amend. 2 S7C4.

Compliance with the NCC cont.

NCC 2019

- **Thermal** - Refer to the CSR Bradford Glasswool Building Blanket PTS for details on thermal compliance of the insulation.
- **Fire Hazard Properties** - When used in specified CSR Bradford Glasswool systems detailed on this PTS only: This product achieves a Group Number and SMOGRA_{RC} in accordance with AS ISO 9705 and AS 5637.1. It may be used as an exposed internal wall or ceiling lining where specified by the NCC 2019 Volume 1 Amend. 1 Specification C1.10 Clause 4.
- **Fire Hazard Properties** - When used in specified CSR Bradford Glasswool systems detailed on this PTS only: This product meets the requirements of the NCC 2019 Volume 1 Amend. 1 Specification C1.10 Clause 7 for insulation materials. When assessed to AS/NZS 1530.3 this product does not exceed the 'Spread of Flame' or 'Smoke Developed' indices of Specification C1.10 Clause 7.

Limitations of Use

- **IMPORTANT:** Do Not Modify This Product: Compliance with the evidence of suitability data referenced in this document is only achieved by the product or configuration listed in this PTS.
- Group number and SMOGRA_{RC} ratings only apply when the installation requirements listed under 'Specific Design or Installation Instructions' are met.
- This product is not suitable for use in HVAC applications. Thermoseal® 750 HD is recommended for HVAC use.
- This product is not designed to withstand prolonged exposure to the elements - accordingly, the exterior cladding should be installed within 6 weeks in a wall application, or 2 weeks in a roof application. Products exposed during this period should be inspected for damage and repaired or replaced prior to installation of the exterior cladding to comply with the Product Warranty. Products exposed for longer than the recommended periods will not be covered by the Product Warranty.
- Products exposed to harsh weather conditions prior to cladding should be inspected for damage and repaired or replaced to ensure compliance with the Product Warranty.
- Prior to cladding, it is good practice to protect this product from UV exposure and harsh weather conditions which may cause damage.
- The foil facing product should not come into contact with wet concrete, or alkaline materials.

This product is not suitable for submersion in water or continuous contact with soil.

Thermoplast 993F White (Facing on Building Blanket)

Specific Design or Installation Instructions

- Isolate power before installation.
- **WARNING:** This product contains aluminium foil which conducts electricity. To avoid electrocution, care should be taken to ensure that this product or conductive fasteners used to secure this product, do not come into contact or close proximity with electrical wiring during installation or use.
- **Caution:** Electrical cables and equipment partially or completely surrounded with bulk thermal insulation may overheat and fail.
- Improved water control at vertical joints can be achieved by sealing overlaps, end laps, discontinuities and penetrations by suitable means such as heat and moisture resistant adhesive tape with a minimum 50mm overlap.
- When installed for vapour and/or air control, this product should be sealed at overlaps (minimum 50mm), end laps, discontinuities and penetrations by suitable means such as heat and moisture resistant adhesive tape.
- When installed for water control, this product must have overlaps of minimum 150mm, or 50mm and be taped on the exterior face.
- **Condensation Risk Consideration:** This product is classified as a vapour barrier and is recommended to be positioned on the warm side of the construction to reduce the risk of condensation entrapment within the structure. As there are many factors which can influence condensation risk it is highly recommended that designers undertake a hygrothermal analysis to further reduce condensation risk.
- Facings may be either adhered to the Glasswool in a CSR approved facility with an approved adhesive, or laid separately prior to the installation of the bulk thermal insulation.
- The facing may be supported by steel wire mesh in the installation, as long as the mesh can support it under ambient conditions.
- Screw or pin fastener spacing should not be larger than a 350mm x 350mm square grid.
- Lap joints in the facing may be taped or left un-taped depending upon the application requirements.
- Facings with Antiglare must have the Antiglare on the non-exposed surface.
- Insulation should be installed so that it forms a continuous layer and abuts or overlaps adjoining insulation other than at supporting members such as columns, studs, noggings, joists, furring channels and the like where the insulation must butt against the member.
- Suitable for applications where the product is protected from direct UV light, water and wind pressure during and after installation.
- Suitable for underslab concrete roof/soffit applications in unconditioned spaces.
- To maintain the water barrier properties of the material it should not be punctured, creased, crushed, sharply folded or dragged over the building structure during installation.

Specific Design or Installation Instructions cont.

For general installation guidance refer to the product installation guide at csrbradford.com.au

Supplementary information - Additional installation guidance for this product can be found in AS 3999.

Evidence of Suitability

- Testing and Professional Assessment, AS ISO 9705 and AS 5637.1 for Thermoplast 993F White on Bradford Glasswool Building Blankets listed in 'Additional Product Data' on this PTS –
 - BRANZ Assessment FC11516.
- Professional Assessment, AS/NZS 1530.3 for Thermoplast 993F White on Bradford Glasswool Building Blankets listed in 'Additional Product Data' on this PTS –
 - CSIRO NATA Assessment FCO-3620.

Testing details apply to the facing material with CSR Bradford Glasswool Building Blanket only.

Conditions of Storage & Maintenance

- Store in the original packaging in a cool, dry area, away from UV light (direct sunlight).
- Do not pressure clean or use mineral based cleaners on this product.

Refer to the product SDS at csrbradford.com.au for more information.

Thermoplast 993F White (Facing on Building Blanket)

Additional Product Data

When manufactured and installed in accordance with CSR Bradford guidance Bradford Thermoplast 993F White may be used with CSR Bradford Glasswool Building Blankets listed below, and achieve the following fire hazard properties-

FACING MATERIAL	GLASSWOOL – CSR BRADFORD BUILDING BLANKET	GROUP NUMBER (AS 5637.1)	SMOGR _A ^{RC} [m ² /s ² x 1000] (AS 5637.1)	FIRE HAZARD PROPERTIES (AS/NZS 1530.3)
Thermoplast 993F White	R1.0 50mm R1.3 60mm	1	> 100	• Spread of flame: 0 • Smoke Developed: 3
	R1.5 75mm R1.8 80mm R2.0 90mm R2.3 100mm R2.5 (HP) 100mm R2.5 110mm R3.0 130mm R3.3 140mm R3.6 145mm R4.2 175mm	2	> 100	

For more details on Bradford Building Blanket, refer to PTS029. Note that once a non-combustible building blanket has a facing adhered it is no longer deemed a non-combustible material.