

## LEXAN THERMOCLEAR PRODUCT TECHNICAL STATEMENT

### PRODUCT DESCRIPTION

Lexan\* Thermoclear\* Twinwall/Multiwall Sheeting is a high quality low maintenance glazing material that is built to last. Lexan polycarbonate resin delivers high impact strength, an excellent balance of low weight and high stiffness and naturally very clear transparency. Its versatility allows for a multitude of applications including roofing, wall cladding, glazing and partitioning making it ideal for Covered Walkways, Pergolas, Shopping Centres, Sports Complexes, Swimming Pool Enclosures, Industrial Glazing, Greenhouses and Screening/Partitioning. Lexan Thermoclear is suitable for use in vertical, sloped or curved scenarios.

Ampelite Lexan\* Thermoclear\* blocks 99.9% of harmful UV radiation. The proprietary surface treatment represents the next generation in surface coating technology. Both sides of the sheeting feature UV protection giving superior resistance to outdoor weathering and greater design flexibility.

### FEATURES

#### Features of Lexan Thermoclear\*

- Available in 10mm & 16mm Clear & Opal finish.
- UV protected to both surfaces for long term weather resistance.
- Good light transmission/light diffusion characteristics.
- Extremely high stiffness.
- Good thermal insulation.
- High impact strength.
- Easy and fast installation.
- Aluminium glazing profiles available, for complete installation
- 10 year light transmission warranty

#### Fire Test Performance

Lexan\* Thermoclear\* has achieved an Internal Surface Finish Group number of 1-S according to performance determined under the conditions described in ISO 9705:1993 required by NZBC clause C3.4(A). Performance is achieved through MBIE Guidance on European Classification.

#### Impact strength

Lexan\* Thermoclear\* sheet has outstanding impact performance over a wide temperature range of -40°C up to +100°C. The product is capable of withstanding the extremes of weather – storms, hailstones, snowfall and ice formation.

#### UV protection

Lexan\* Thermoclear\* sheet has UV protection to both surfaces to help protect the system against the degrading effects of ultra violet radiation and promotes long-term optical quality under all kind of severe weather conditions.

### INSTALLATION

Lexan Thermoclear polycarbonate Glazing System shall be installed in accordance with Ampelite (NZ) Limited fixing instructions and with AS/NZS 1562.3:1996, Design and Installation of Sheet Roof and Wall Cladding, Part 3: Plastic. Also, Lexan Thermoclear Glazing sheets shall be installed in accordance with the NZ Building Code and the NZ Metal Roofing and Cladding Manufacturers Association Code of Practice.

FOR FULL INSTALLATION DETAILS PLEASE DOWNLOAD A COPY OF OUR INSTALLION GUIDE:

## LEXAN THERMOCLEAR PRODUCT TECHNICAL STATEMENT (Cont'd)

**Cutting:** Thermoclear sheets can be cut easily and accurately with most standard workshop equipment. This includes common circular, hand and hacksaws with fine-toothed blades. The panel should be clamped to work tables, trestles, etc to avoid vibration.

**Note:** Pay close attention to blowing sawdust/swarf out of the Thermoclear channels before applying end sealing and breather tapes.

**Sealing Thermoclear Sheet Ends:** Apply end sealing tapes, as supplied by Ampelite (NZ) Limited. Use impermeable self-adhesive tape to seal the top end of the sheet to prevent moisture, dust and dirt contamination. Apply special self-adhesive anti-condensation venting tape to the bottom end of the sheet to prevent dust and dirt contamination and allow condensation drainage.

**Note:** In extremely dusty environments it is recommended that both top and bottom channel ends are fully sealed with impermeable tape.

**Drainage Provision:** Drill 5mm diameter drainage holes at approx 600mm centres on the external face of the bottom aluminium glazing profile to allow condensation to drain to the exterior of the building.

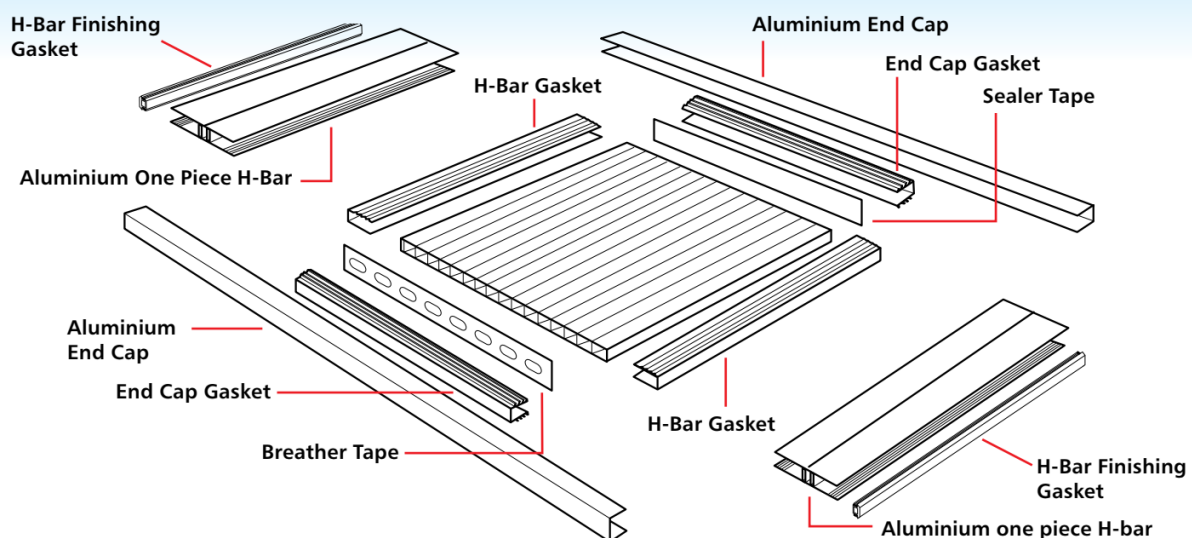
**Masking Film:** Remove polyethylene masking film as soon after installation of Thermoclear panels as practicable.

**Storage:** Store Thermoclear sheets in a dry and fire-safe area. Do not store heavy materials on top of sheets as they may fracture.

**Recycling and disposal:** Polycarbonate sheeting is fully recyclable and can also be disposed of in a land fill.

### The Glazing System Expanded

The Lexan Thermoclear sheeting with the H-Bar gasket simply slide into the H-Bar ready for fixing to the structure. The glazing bars allow for the thermal expansion and contraction of the sheets. This eliminates the need for fixings through the sheet.





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## LEXAN THERMOCLEAR PRODUCT TECHNICAL STATEMENT (Cont'd)

### SPAN INFORMATION

Spans vary depending on application, wind zones, etc. Contact your nearest Ampelite Office for further information.

### BUILDING CODE COMPLIANCE

The product will, if used in accordance with the Ampelite installation and maintenance requirements, assist with meeting the following provisions of the building code for a period of 15 years:

- Clause B2 Durability: Performance B2.3.1
- Clause C3 Fire affecting areas beyond the fire source: Buildings C3.3
- Clause E2 External moisture: Performance E2.3.1, E2.3.2
- Clause F2 Hazardous building materials: Performance F2.3.1
- Clause G7 Natural Light

### EVIDENCE MEETS NZBC

Test information available from Ampelite (NZ) Ltd and past history of use of Lexan Thermoclear products in New Zealand indicate that, provided the product use and maintenance is in line with the guidelines contained in the current literature referenced, Lexan Thermoclear systems can be expected to meet the performance criteria in clause B2, C3, E2, F2 and G7 of the New Zealand Building Code, for a period of not less than 15 years.

### TESTING & SUPPORTING EVIDENCE

The product has and can make available the following additional evidence to support the above statements:

#### **AS/NZS1170 Part 2. Wind Actions.**

**Sustainability Document.** Environmental Declaration—Sabic Innovative Plastics

**EN 13501-1+A1:2009 Fire Classification of construction products & building elements—Part 1: classification using data from reaction to fire tests.** Testing conducted by Warrington Fire Gent NV, Global Safety Division, Belgium. The co-relation of wall and ceiling surface finishes derived from Australian or European classifications to the Group Number requirements of NZBC Clause 3.4(a) can, without the need for further testing, be taken as described in the following table:



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New Zealand Group Number  
according to NZBC Clause  
C3.4(a) using ISO 9705:1993

Australian Group Number  
according to NCC Specifi-  
cation C1.10 Clause 4 us-  
ing AS ISO 9705:2003

European Classification using to  
EN 13501-1:2007+A1:2009

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Group Number 1-S

Group 1, and a smoke  
growth rate index  
not more than 100

Class A1, A2 or B and Smoke  
production rating s1 or s2

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### STANDARDS

Ampelite NZ Limited is an AS/NZS ISO 9001: 2002 SAI Global Certification accredited company providing Quality Assurance in Manufacturing, Supply and Servicing. License number QEC 4787 was certified and issued to the company on the 20 June 1995.

### COMPANY CONTACT:

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