

# Durolite® FIREGUARD

Durolite® FireGuard 2 (FG2) and FireGuard 3 (FG3) sheeting has been specifically developed for Commercial and Industrial Structures requiring spread of flame group numbers to meet the NZBC and provide good natural lighting, combined with the need for fire retardant roofing and building materials.

- Premium Industrial fiberglass sheeting with the same UV resistant gel coated surface as Durolite®. Eliminates 99% of harmful ultra violet rays.
- FG3 uses a bromine free formulation.
- Excellent clarity and long term long-term light transmission.
- 25 year warranty protection for both water penetration and light transmission.
- Surface Finish Properties have been tested to ISO 5660 and achieved a group number 2 for FireGuard 2, and group number 3 for FireGuard 3 performance in accordance with NZBC Verification Method C/VM2 Appendix A.
- Available in range of options including clear or HG heat reducing sheeting and also as a solid colour sheet for corrosive environments.

Like Durolite®, Durolite® FireGuard sheeting is protected by the same highly UV resistant Silmar 996 gel coat which is integral with the sheet and does not delaminate. Durolite® was tested at Allunga Queensland, through the Allunga Exposure Laboratory.

Allunga is an independent laboratory that specializes in natural weather testing, and is well known in Australasia and overseas. All methods of testing are performed to strict Australian Standards. The Durolite® technology was developed in the United States through BP Chemicals, and has been in the American market for in excess of 25 years and widely used throughout New Zealand since 1995.

Durolite® FireGuard 2 and FireGuard 3 are available in all commonly manufactured profiles. They are suitable for curved roof applications. Curved roof radius to suite 1.4mm (2400g/m<sup>2</sup>) Corrugated and Styleline - minimum radius 4.0 metres.



Durolite® Fireguard



Product installed by Kiwi Roofing

## Specification

Easy to specify – callup Durolite® FG2 or FG3 manufactured to comply with AS/NZ54256.319947, part 2. The gauge/weight of the sheet shall be \*.....mm/gsm and shall be Dimond fixing instructions and with AS/NZS 1562.3:1996, Design and installation of sheet roof and wall cladding, Part 3: Plastic, the requirements of the NZ building code and the NZ Metal Roofing Manufactures Association Code of Practice.

\*Insert actual sheet weights required. Our supplier for Durolite® is a Quality Endorsed Company complying with AS/NZS ISO 9000-2000, Licence SMK20116.

## Installation

1. Pre-drill oversize fixing holes to allow for expansion and contraction of sheet.
2. Apply the Durolite purlin protection strip between the safety mesh and Fiberglass sheet at each purlin.
3. For endlaps, apply a self adhesive closed cell foam strip directly over the purlin between the overlapping sheets.
4. Store sheets in a dry and fire safe area. Do not store heavy materials on sheets as they may fracture.
5. Pan fixing is recommended for cladding. Fixing shall occur in every pan at ends and every other at intermediate.

Durolite® sheeting matching clip-fixed deck profiles should be side lapped with overlaps on both sides. Refer to Dimond’s website for more fixing information.

**Important:** Durolite® sheeting is installed by pre-drilling over size holes to allow for expansion and contraction. The basic calculation shall be 0.75mm per lineal metre, plus the shank diameter of the fastener. Example: 10 mtr sheet – 10 x 0.75 + 4mm (fastener) = 11.5mm per drilled hole.

**Note:** All installation should comply with the design loading requirements of NZ4203-1992 and NZ3604-1990.

**Note:** Dimond® FireGuard sheeting shall be installed in accordance with Dimond fixing instructions and with AS/NZS 1562.3:1996, Design and installation of sheet roof and wall cladding, Part 3: Plastic, the requirements of the NZ building code and the NZ Metal Roofing Manufactures Association Code of Practice.

## Internal purlin span for 1.5 kPa U.L.S (mm)

Series	1.1mm (1800 g/m <sup>2</sup> )	1.4mm (2400 g/m <sup>2</sup> )	1.7mm (3050 g/m <sup>2</sup> )
Corrugate	1000	1200	1300
LT7	1400	1700	1800
Brownbuilt 900	1400	1700	1900
Styleline/Veedek	1200	1500	1700
DP955	1000	1300	1600
Dimondek 400	1200	1400	N/A

U.L.S = Ultimate limit state capacity

## Typical transmission levels (for series 1800/1.1mm)

FireGuard 2	
Sheet Colour	Light Transmission
Light Bronze	60%
FireGuard 3	
Sheet Colour	Light Transmission
Clear	84%
Mist	78%
Opal	70%
Green	74%
Blue	60%
Grey	35%

## Physical properties

Tensile strength	80MPa (min requirements 55 MPa)
Impact strength	8 Joules
Shear strength	90 MPa
Modulus of elasticity	5500 MPa
Compressive strength	135 MPa
Flexural strength	150 MPa
Specific gravity	1.45
Thermal expansion	3.0 x 10 <sup>-5</sup> cm/°C
Thermal conductivity	158 watt/m°C
Water absorption	.2% in 24 hrs/26°C
Service temperature Range	-20°C to +95°C

June 2018