specifications

LANWOOD INDUSTRIES LIMITED

CONSTRUCTION

Styrolock™ is a 'sandwich' panel consisting of a 'core' of expanded polystyrene laminated to two outer skins using a polyurethane adhesive.

PANEL SKINS

Standard panel skins are 0.59mm galvanised steel with a *COLORSTEEL®* coating as supplied by BHP NZ Steel Ltd. Panels are available with a 'ribbed' profile or flat finish. Standard finishes are *COLORSTEEL®* G2 or *COLORSTEEL®* VP. Alternative panel skins include aluminium, ABS, stainless steel and plywood.

CORE

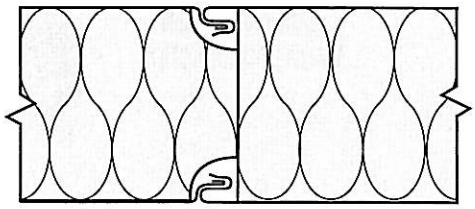
Self-extinguishing grade, expanded polystyrene is manufactured to AS 1366.3 - 1992. It provides unparalleled pertormance and cost-effective insulation value.

ADHESIVE

A structural 2 part thermosetting polyurethane adhesive is used to laminate the two outer skins to the polystyrene core.

JOINTING

Lanwood's proven S lock joint provides a positive and simple connection between panels.



DURABILITY

Lanwood Insulation Panels have been successfully used in New Zealand for over 30 years without showing any signs of degradation. Subject to BHP NZ Steel's requirements for materials selection, design, installation and maintenance, these panels meet the 50 year durability requirements of the New Zealand Building Code.

SURFACE FINISHES

The 'standard finish' is BHP NZ Steel's *COLORSTEEL®* G2 which is suitable for roof and wall applications in most circumstances. For more severe situations such as marine or heavy-duty industrial environments, *COLORSTEEL®* VP provides a higher level of protection against corrosion and machinery damage. Further information is available in BHP NZ Steel's Environmental Categories publication.

IN-SERVICE TEMPERATURES

The maximum recommended, continuous operating temperature is 65°C. However, panels will be unaffected by temperatures of 70°C for short periods - such as hot water cleaning, etc.

PANEL THICKNESS

Standard panel thicknesses are... 50, 75, 100, 125, 150, 175, 200, 225 and 250mm with non-standard thicknesses available subject to quantity considerations.

PANEL LENGTH

The continuous production method permits an infinite range of panel lengths. Maximum length is only limited by handling and transportation considerations. Lengths of 16m are not uncommon and maximum lengths in excess of 26m have been transported throughout the North Island.

PANEL WIDTHS

Standard panel width for Styrolock™ is 1200mm and for Styroroof™ 900mm.

PANEL WEIGHTS

Panel thickness (mm)	Weight (kg/m²)
50	11. 4
75	11.8
100	12.2
150	13.0
200	13.8

SPANS

The following recommended maximum panel spans have been calculated by our Engineers after the completion of a comprehensive panel testing programme.

Walls

Panel thickness (mm)	Span (m)
50	3.5
75	4.6
100	5.5
150	7.3
200	8.4

Roof

Panel thickness (mm)	Span (m)
50	3.4
75	4.4
100	5.3
150	6.5
200	7.0

Ceiling

Panel thickness (mm)	Span (m)
50	3.5
75	4.6
100	5.6
150	6.5
200	7.0

Other allowable load combinations are available from Lanwood's Design Engineers on request. Allowable spans are based on the following applied loads and the deflection criteria as set out in NZS 4203: 1992.

Walls 0.71 kPa max. wind pressure

Roof -0.84 kPa max. wind pressure - outward

Ceiling 0.25 kPa live load or IKN point load

R VALUES

Panel thickness (mm)	R (m²°C/W)
50	1.4
75	2.0
100	2.6
150	3.8
200	5.0

These R values have been calculated in accordance with NZS4214 assuming a combined indoor and outdoor surface coefficient of 0.13 and S Grade polystyrene with a thermal conductivity (K) of 0.041 w/m°C at a mean temperature of 15°C.

FIRE PERFORMANCE

Panels have been tested to the Early Fire Hazard Properties Standard AS1530 Part 3 - 1976 giving the following results:

Ignitability Index (0-20) 0

Spreadof Flame Index (0-20) 0

Heat Evolved Index (0-10) 0

Smoke Developed Index (0-10) 0

ACOUSTIC PANEL

Lanwood Acoustic Panels have been tested to ISO 140 Parts I and III resulting in the following transmission losses (dB):

Octave Band Centre Frequency (Hz)	Transmission Losses (dB)	
	50mm Panel	100mm Panel
125	20	20
250	25	24
500	28	25
1K	25	24
2K	41	44
4K	58	62
STC Rating	27 dBA	28 dBA

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