Danterr
CONCRETE ACCESSORIES FOR AUSTRALIA

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EQUINOX

PRODUCT DESCRIPTION

Equinox contains HK Ties that are used to connect insulated concrete sandwich panels with maximum thermal performance; and Styroboard® XPS which are extruded polystyrene sheets that are strong and durable, making it an ideal product for use across a range of construction and building applications - both residential and commercial. The high-density cell structure of Styroboard® XPS also makes it practically impervious to water. The unique design of the HK Ties enables it to pierce the insulation foam as required.

Danterr's Equinox insulated concrete sandwich panels system create a consistent temperature inside a facility no matter what extreme temperature ranges are transpiring outside. This saves on electricity when mass heating or cooling is required.

STYROBOARDÂ® XPS PRODUCT

DESCRIPTION
StyroboardÂ® XPS is a highly versatile construction material boasting excellent compressive strength. Strong, resilient and robust with superior thermal performance, StyroboardÂ® XPS is ideal for all your building needs. StyroboardÂ® XPS meets a number of key requirements in structural and civil engineering. StyroboardÂ® XPS is dimensionally stable, rot-proof and moisture resistant. With superior compressive strength and higher, long-term R-values when compared to traditional expanded polystyrene, StyroboardÂ® XPS is suitable for use on floors subject to heavy loads and constant foot traffic.

Roof Spacers

- Manufactured in Australia
- KPA rating exceeds BCA regulations

Green Roofs

- High compressive strength
- Does not rot or decompose

Commercial Construction
Residential Housing
Correction Facilities

AREAS OF APPLICATION

Insulated Concrete Applications
Floor Insulation

- Ideal for heavy load bearing floors
- Impervious to water

Perimeter Insulation

- Moisture & rot resistant
- Superior R-values

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Styroboard® XPS

Styroboard® XPS is a highly versatile construction material boasting excellent compressive strength and superior thermal performance.

PHYSICAL PROPERTIES

Styroboard® XPS	Styroboard 350
Panel Surface	Skin
Edge Profile	Square Edge
Length and Width	2400 x 600
Nominal Density (kg/m³)	32-36

Nominal Thermal Resistance	R-Value	K-Value		Relevant Test Method
Thickness 20mm	0.71R	0.028		AS-2464.5 / ASTMC518
Thickness 25mm	0.89R	0.028		AS-2464.5 / ASTMC518
Thickness 30mm	1.07R	0.028		AS-2464.5 / ASTMC518
Thickness 40mm	1.43R	0.028		AS-2464.5 / ASTMC518
Thickness 50mm	1.79R	0.028		AS-2464.5 / ASTMC518
Thickness 75mm	2.68R	0.028		AS-2464.5 / ASTMC518

Properties				Relevant Test Method
	2%	10%	Yield	AS-2498.3 / ASTM D1621
Thickness 20mm	on request	≥220	≥220	
Thickness 25mm	on request	≥250	≥250	
Thickness 30mm	on request	≥250	≥250	
Thickness 40mm	on request	≥300	≥300	
Thickness 50mm	≥200	≥350	≥350	
Thickness 75mm	≥300	≥350	≥350	
Rate of Vapour Transmission, max. measured parallel to rise at 23°C, dry conditions	125 µg/m²s			AS-2498.5
Max. dimensional stability of length, width and thickness; 7 days at 70°C, dry conditions	<1%			AS-2488.6
Flame propagation characteristics				
- median flame duration max.	1.5s			AS-2122.1
- eighth value, max.	2.5s			AS-2122.1
- median volume retained	70%			AS-2122.1
- eighth value, min.	60%			AS-2122.1
Min. thermal resistance, (50mm sample): at a mean temperature of 25°C	1.79 m²K/W			AS-2464.5 / ASTMC518
Water absorption, max	1.7% vol/vol			AS-2498.8

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HK TIES PRODUCT DESCRIPTION

HK Ties minimise the energy draining effects of thermal bridging experienced when metal ties or solid concrete sections are used to connect the concrete wythes of sandwich panels through the insulation layer. The use of HK low-conductivity ties results in a sandwich panel with maximum thermal performance. HK Ties are manufactured from high-performance, heat and alkaline resistant, engineered polymers.

BENEFITS

Holds a face wythe of concrete affixed to the panel without the need for thermally inefficient metal connectors or sold concrete sections. High strength and low thermal conductivity. High-performance, alkaline resistant, engineered thermoplastic. In-place temperature range: -40°C to 93°C

TECHNICAL SPECIFICATIONS

113582HK-ST50 Standard Wall Ties 135mm

Tie Length: 5.31in / 135mm
Embedment Depth: 1.5in / 38mm
Dia. Through Foam: 0.5in / 12.5mm
Insulation Thickness: 2in / 50mm
Fascia Thickness: 2-4in / 50-100mm
Tensile Strength: 1,100lb / 4.89kN
Pullout Strength: 1,100lb / 4.89kN
Panel Shear/Tie: 500lb / 2.22kN
Alkaline Resistance: Excellent[1]
Impact Resistance: Excellent[2]
Fire Performance: Resist 300lb tension load for over 90 minutes when fire tested per Section 7.4.3 of ASTM E1512-01
Thermal Conductivity: 2.1 Btu-in/hr ft²°F 0.03 Wm°K

[1] Base resin testing showed no change in properties when exposed to Alkalis
[2] The un-notched Izod Impact testing of the base resin yielded no break

APPLICATIONS

Pre-cast, pre-stressed, and tilt-up. Fascia may be supported or unsupported up to 102mm thick.

TEST RESULTS

The HK Standard Ties are tested in accordance with the ICC-ES AC 320.

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117024HK-ST50 Standard Wall Ties 160mm

Tie Length: 6.25In / 160mm
Embedment Depth: 1.5In / 38mm
Dia. Through Foam: 0.57In / 14.5mm
Insulation Thickness: 3In / 575mm
Fascia Thickness: 2-4In / 50-100mm
Tensile Strength: 1,656lb / 7.37kN
Pullout Strength: 1,656lb / 7.37kN
Panel Shear/Tie: 924lb / 4.11kN
Alkaline Resistance: Excellent[1]
Impact Resistance: Excellent[2]
Fire Performance: Resist 300lb tension load for over 90 minutes when fire tested per Section 7.4.3 of ASTM E1512-01
Thermal Conductivity: 2.1 Btu-in/hr ft²°F 0.03 Wm°K

[1] Base resin testing showed no change in properties when exposed to Alkalis
[2] The un-notched Izod Impact testing of the base resin yielded no break

114950HK Vertical-Pour Wall Ties 250mm with 2 Clips

Tie Length: 9.75in / 248mm
Min. Embedment Depth: 2.875in / 73mm
Dia. Through Foam: 0.5in / 12.5mm
Insulation Thickness: 2in / 50mm
Fascia Thickness: 2.875-3.125in / 73-79mm
Tensile Strength: 1,400lb / 6.23kN
Pullout Strength: 1,400lb / 6.23kN
Panel Shear/Tie: 200lb / 0.89kN
Alkaline Resistance: Excellent[1]
Impact Resistance: Excellent[2]
Tie Colour: Ties are provided in various colours for identification when used in walls with a tapered interior wythe thickness
Fire Performance: Resist 300lb tension load for over 90 minutes when fire tested per Section 7.4.3 of ASTM E1512-01
Thermal Conductivity: 2.1 Btu-in/hr ft²°F 0.03 Wm°K

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