

Insulated Concrete Sandwich Panels

Details

Concrete is a strong and highly durable material and a good choice in both commercial and multistory residential applications. However, concrete panel walls can absorb moisture from rain and vapour drive. Condensation buildup can reduce the effectiveness of the insulation and may cause other problems, including mould and mildew.

Insulated concrete sandwich panels combine the strength and durability of concrete with the unmatched insulating capabilities of Styrofoam™ extruded polystyrene. Styrofoam's closed cell, moisture resistant structure provides dependable and predictable performance, even under the harsh conditions of freeze-thaw cycling. Styrofoam™ has no facings that are susceptible to corrosion, delamination or chemical reaction with the concrete.



Assembly

To form concrete sandwich panels, concrete is poured on both sides of the Styrofoam™ and the composite is held together structurally with connectors that can be pushed through the foam. Concrete panels provide thermal mass, which can store considerable amounts of thermal energy.

Buildings that incorporate Styrofoam™ insulated concrete sandwich panels will perform more efficiently over time because of the Styrofoam's superior long-term thermal performance and unparalleled moisture control qualities.

The rigid Styrofoam™ insulation isolates the thermal mass provided by the concrete panels, minimising building interior temperature fluctuations under outside temperature swings.

Applications

- Insulated precast, prestressed or tilt-up construction in both commercial and multistory residential buildings

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Features

- Styrofoam insulation stands up to the moisture present during the construction of the concrete panel wall

Styrofoam Standards

- Green Star Compliant
- CFC & HCFC Free
- Zero ODP

Dynamic Composite
Technologies Pty Ltd

ABN 55 103 023 874

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Technical Data

Product Name: Insulation concrete sandwich panels

Insulation Description: Extruded polystyrene XPS rigid thermal insulation

Styrofoam™ core panel:	DCT GA300	RTM-X
Colour:	Light cream	Blue
Edge treatment:	Tongue and grooved	Square edge
Nominal Thickness (mm):	25, 30, 40, 50, 75, 100, 120	25, 35, 40, 50, 75, 100, 120
Width:	600mm	600mm
Length:	2500mm	2500mm
Density:	30kg/m ³	40kg/m ³
Compressive strength @ 10% deformation:	300kPa (min)	400kPa (min)
Water absorption:	0.5%	0.5%
Environmental characteristics:	Green Star Compliant Zero ODP CFC/HCFC Free	Green Star Compliant Zero ODP CFC/HCFC Free

Nominal Thickness to R-Value:		
25mm	1.0	0.9
30mm	1.2	-
35mm	-	1.3
40mm	1.6	1.4
50mm	2.0	1.8
75mm	3.0	2.7
100mm	4.0	3.6
120mm	4.8	4.3
Lambda / K Value / Thermal Conductivity:	0.025	0.0278

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