



Styrofoam HD-X

Details

In cold stores the proper design of the floor system is critical to avoid the bending and cracking problems which can occur in inadequately designed low temperature floor systems. Floor designs must be able to withstand the high floor loadings present in low temperature facilities.

The typical low temperature floor design has not changed for many years. The insulation is laid in multiple layers on a vapour retarder either over a sub-slab or directly over the soil. Reinforcement and slip sheets are positioned where necessary and the concrete for the wearing slab is poured directly onto the insulation.

After the wearing slab has cured, it must be able to support the live and dead loads imposed by any moving equipment, storage racks and stored materials. As design loads increase, the insulation plays a more important role in providing support for the wearing slab.

Thanks to an extremely high compressive strength-to-weight ratio, exceptional moisture resistance, low thermal conductivity and long-term performance of DCTech's Styrofoam HD-X extruded polystyrene (XPS) rigid thermal insulation, makes it the ideal solution for cold storefloor applications.

When used in cold storefloor panels, DCTech's Styrofoam HD-X XPS insulation will support heavy cargo loads and the dynamic loads of fork lift trucks. When used in walls it absorbs high dynamic loads, such as those caused by wind and vibration. When used in roof panels DCTech's Styrofoam HD-X XPS insulation will support high tensile loads from suspended items.

The homogeneous closed-cell structure ensures that DCTech's Styrofoam HD-X XPS rigid insulation retains its performance even when in permanent contact with moisture. This exceptionally stable material will retain its initial insulation performance and physical integrity in exposed conditions over the very long term. It is this unusual property that made possible the inverted warm roof concept, pioneered by Dow.

Applications

- Cold store floors

Features

- Extremely high compressive strength-to-weight ratio
- Low thermal conductivity
- Low susceptibility to rot, mould or fungal growth

Standards

- Green Star Compliant
- CFC and HCFC Free
- Zero ODP
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Technical data

Product Name:	Dow Styrofoam™ HD-X™ Extruded polystyrene XPS rigid thermal insulation
Product Description:	Dow Styrofoam™ HD-X™ XPS is a heavy load-bearing rigid thermal insulation board which will support heavy cargo loads and fork lift trucks in cold store floors and in roof panels to support high tensile loads.
Surface finish:	Planned with grooves on one face
Product code:	HD-X
Colour:	Blue
Edge treatment:	Shiplap
Thickness:	100 mm
Width:	600 mm
Length:	2510 mm
Density:	45 kg/m ³
Compressive strength:	700 kPa
Water absorption by submersion:	0,2% by Vol.
Blowing agent:	CFC and HCFC Free
Environmental characteristics:	Green Star compliant Zero ODP

Thickness to R-Value Dow Styrofoam™ HD-X™ XPS @ 24°C		
Thickness Metres	Lambda/K Value/Thermal Conductivity	R Value
0.025	0.0278	0.90
0.030	0.0278	1.08
0.040	0.0278	1.44
0.050	0.0278	1.80
0.060	0.0278	2.16
0.075	0.0278	2.70
0.080	0.0278	2.88
0.090	0.0278	3.24
0.100	0.0278	3.60
0.120	0.0278	4.32
0.150	0.0278	5.40
0.200	0.0278	7.19

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