

DATA SHEET

XPS TECHNICAL INFORMATION

What exactly is XPS?

XPS stands for Extruded Polystyrene. It is a lightweight cellular plastic material consisting of fine spherical honeycomb shaped particles. Extruded polystyrene foam (XPS) has air inclusions which gives it moderate flexibility, a low density and a low thermal conductivity.

How is XPS manufactured?

Raw Polystyrene beads are fed into an extruder at high temperature and blended with butane to form the foamed honeycomb liquid. It then passes through a second extruder, which is cooling the material. It is then extruded through a large circular die and the blown material passes over a stainless sleeve and is then cut from the bottom in a continuous process that folds out into a sheet and rolled onto a large jumbo rolls for further processing and finishing.

Does XPS absorb water?

XPS has closed cells and cannot absorb water. During the process of extrusion, tiny channels are formed between the particles. If the material is immersed in water these tiny channels can be filled with water. After immersion for more than 360 days, there may be up to 6% water content by volume which has entered the channels. Even under such an adverse and rare condition of prolonged saturation, XPS suffer little adverse effect. It maintains its shape, size, structure, cohesion and physical appearance.

Is XPS durable?

Yes. Because XPS is an inert organic material, it will not rot and is highly resistant to mildew. It also provides no nutritive value to ants, termites and rodents.

To prevent damage to XPS by pests and insects seeking to gain access to the other materials in buildings which provide a food source.

Does XPS contain CFC's?

No. XPS will self extinguish almost immediately after the fire source is removed.

Does XPS burn?

Because XPS boards contain a fire retardant additive, they do not present an undue fire hazard when correctly installed. Like timber, particle-board and other organic building materials, EPS will burn when in contact with a flame, due to the presence of the fire retardant additive, this flame will self extinguish almost immediately after the fire source is removed.

Does XPS give off toxic fumes?

The level of toxicity of XPS in a fire situation is no greater than that of timber and other commonly used building materials: the same toxic gas, carbon monoxide, is produced. Also produced are carbon dioxide and soot (carbon). There is no emission of such gases as hydrogen cyanide or hydrogen chloride.

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Property	Unit	Value	Test Method
Thermal Conductivity @ mean temp 25°C	Kal/mh°C	0.023	ASTM C518
Compressive Strength (@ 10% deformation)	kpa/m ²	472	ASTM D1621
Flexural Strength	kgf/cm ²	3.0~3.7	ASTM D5335
Burn Test (Flame extinguished in 3 seconds)	-	Pass	CNS 2536
Moisture Permeability Coefficient	g/ m ² hmmHg	0.06	ASTM C272
Water Absorption	g/100cm ²	0.01 (max)	ASTM C272
Linear Expansion	cm/cm °c	7 x 10 ⁻⁵	ASTM D1622
Density	kg/m ³	50	ASTM D1622
Impact Insulation Class	-	IIC56	ISO 7171:2
Impact Insulation Class	-	L n w (Ci) 54	ASTM E989-89
Thickness Loss @ 3 years	@ 25°C	@ 15kpa load	< 1%
pH Value	-	6.5 - 7.0	Neutral