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Product Information Bulletin

EnerSpan® Insulation Material Properties for CAN/ULC-S701 Types

EnerSpan® insulation is a rigid, closed cell, silver-gray insulation that meets or exceeds requirements for expanded polystyrene (EPS) insulation manufactured to CAN/ULC-S701, **Standard for Thermal Insulation, Polystyrene, Boards and Pipe Covering**. EnerSpan insulation is manufactured using **Neopor® F5300 GPS Plus**, a graphite-enhanced expandable polystyrene (GPS) raw material provided by BASF.

The graphite within the silver-gray cellular structure of **EnerSpan** insulation reduces radiation heat transfer and results in an enhanced thermal resistance compared to standard white EPS insulation manufactured to CAN/ULC-S701.

Material Properties	Units	CAN/ULC-S701 Type		
		1	**2**	**3**
Thermal Resistance[1] *Minimum per 25 mm (inch)* ASTM C518	$m^2 \cdot {}^oC/W$ ($ft^2 \cdot h \cdot {}^oF/BTU$)	0.82 (4.7)	0.82 (4.7)	0.82 (4.7)
Compressive Resistance *Minimum @ 10% Deformation* ASTM D1621	kPa (psi)	70 (10)	110 (16)	170 (25)
Flexural Strength *Minimum* ASTM C203	kPa (psi)	170 (25)	240 (35)	300 (44)
Water Vapour Permeance[2] *Maximum* ASTM E96	$ng/(Pa \cdot s \cdot m^2)$ (Perms)	300 (5.2)	200 (3.5)	130 (2.25)
Water Absorption[3] *Maximum* ASTM D2842	% By volume	6.0	4.0	2.0
Dimensional Stability *Maximum, 7 Days @ 70 ± 2℃ (158 ± 4℉)* ASTM D2126	% Linear Change	1.5	1.5	1.5
Limiting Oxygen Index *Minimum* ASTM D2863	%	24	24	24
Surface Burning Characteristics *Classification or Rating* CAN/ULC S102.2	Flame Spread	220		
	Smoke Developed	Over 500		

1. **EnerSpan** insulation thermal resistance values in the table above exceed minimum requirements for EPS insulation manufactured to CAN/ULC-S701.
2. WVP values quoted are maximum values for 25-mm (1-inch) thick samples with natural skins intact. Lower values will result for thicker materials.
3. ASTM D2842 is a laboratory test method that requires complete submersion of test specimens under a head of water for 96 hours. The water absorption values above are applicable to specific end-use design requirements only to the extent that the end-use conditions are similar to the laboratory test requirements.

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Handling, Storage and Installation Recommendations for *EnerSpan* Insulation

The following material handling, jobsite storage and installation recommendations have been provided by BASF for insulation material made from *Neopor® F5300 GPS Plus* graphite-enhanced expandable polystyrene (GPS) raw material.

Material Handling:

Material handling and the flow of materials from manufacturing site to job site is a significant part of the construction process. Precautionary measures taken in packaging, storage, transportation and installation of insulation products made of **Neopor** can help minimize the potential for damage to the products.

Jobsite Storage:

Precautions taken when storing insulation products on the jobsite can help minimize the potential for damage. Keep product tarped or covered to protect from weather. Do not use clear plastic covering film. If possible, store indoors. Care should be taken to keep exposed foam protected from reflective sunlight or prolonged solar exposure.

Installation:

Precautions taken during the construction process can help minimize the potential for damage. Care should be taken to keep exposed foam protected from reflected sunlight or prolonged solar exposure. If deformation of the insulation product occurs due to excessive heat transferred from reflected and concentrated sunlight, remove the reflective surface or shield the insulation product.

A secondary method to protect the foam from direct sunlight and heat is to install sunscreen or tarp on the outside of the scaffolding, much the same that is used on building construction that protects the public when it is necessary for them to pass by construction site underneath the scaffolding. This is only needed until the finish coat of the foam is applied.