Plasti·Fab® EPS PRODUCT SOLUTIONS

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Product Information Bulletin

EnerSpan® Insulation Material Properties for ASTM C578 Types

EnerSpan® insulation is rigid, closed cell insulation with a silver-gray color that meets or exceeds requirements for expanded polystyrene (EPS) insulation manufactured to ASTM C578, ***Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation***. ***EnerSpan*** insulation is manufactured using ***Neopor***® ***F5300 Plus***, a graphite-enhanced expandable polystyrene (GPS) resin 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 white EPS insulation manufactured to ASTM C578. C578, Type II+ insulation meets requirements for use as a component in BASF Corporation – Wall Systems: ***Senerflex Platinum CI***, ***Pebbletex Platinum CI*** and ***Acrotex Platinum CI*** EIFS.

Material Properties[1]	Units		ASTM C578 Insulation Types				
			I	VIII	II	II+	IX
Nominal Density	pcf		1.00	1.25	1.50	NA	2.00
Compressive Resistance *Minimum @10% deformation* ASTM D1621	psi		10.0	13.0	15.0	20.0	25.0
R-value *per inch at mean temperature* ASTM C518	$\frac{ft^2 \cdot hr \cdot °F}{Btu}$	@ 40 ºF	4.9	4.9	4.9	5.0	5.0
		@ 75 ºF	4.7	4.7	4.7	4.7	4.7
Flexural Strength *Minimum* ASTM C203	psi		25	30	35	40	50
Water Vapor Permeance *Maximum* ASTM E96	Perm for 1-inch		5.0	5.0	3.5	3.5	2.5
Water Absorption[2] *Maximum* ASTM C272	% by volume		4.0	4.0	3.0	3.0	2.0
Dimensional Stability *Maximum* ASTM D2126	% linear change		2.0	2.0	2.0	2.0	2.0
Oxygen Index *Minimum* ASTM D2863	volume %		24	24	24	24	24
Density *Minimum* ASTM D1622	pcf		0.90	1.15	1.35	1.45	1.80
Surface Burning Characteristics ASTM E84	Flame Spread Index		<25				
	Smoke-Developed Index		<450				

[1] ***EnerSpan*** insulation thermal resistance values in the table above exceed minimum requirements for EPS insulation manufactured to ASTM C578.

[2] ASTM Test Method C272 water absorption requires 24 hours submersion of specimen under water. 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 requirements stated in the test method.

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.