

Neopor® GPS Insulation Cores for Walk-in Cooler and Freezers

Overview:

For over 20 years Neopor Graphite Polystyrene has been providing architects, engineers and designers with thinner insulation profiles that meet and exceed the performance of other foam insulation products. The Neopor Plus GPS delivers the highest R-value in the Neopor GPS product family. Neopor Plus GPS is manufactured under UL and International Code Council third party independent audit and certification. Neopor Plus GPS meets the requirements of the Energy Independence and Security Act of 2007 and upcoming federal regulations. Neopor Plus GPS achieves recommended R-values for virtually all walk-in coolers and freezer components such as ceilings, walls, floors and doors.

Walk-in Cooler & Freezer Insulation with Design Flexibility:

- Neopor Plus GPS is available nationwide through the authorized BASF Neopor supplier network.
- Precut insulation boards are made to manufacturer specifications and can save time and cost to produce cooler and or freezer.
- Insulation boards can be made into custom sizes and dimensions up to 40 inches in thickness at varying slopes.
- Properly designed panels made with Neopor Plus GPS as a core can be adhered to metal as well as wood substrate using RHM adhesives as well as other types of adhesives.
- Compared to other insulations such as XPS, Neopor's stable R-value helps promote efficient cooling operation of the unit.
- Weight savings equals cost savings: Neopor Plus GPS 10 psi insulation panel can weigh up to 27% less than a 20 psi panel.



Reliable Thermal Resistance & Proven Moisture Performance:

Unlike Extruded Polystyrene (XPS), Neopor Plus GPS does not rely on a blowing agent for its R-value performance. Whereas XPS uses a gas agent that escapes and loses R-value as it ages.

Neopor Plus GPS product line is made with fine graphite particles embedded in the closed cell polymer matrix which helps absorb and reflect heat thus enhancing thermal resistance and retaining the R-value for the life of insulation.

Neopor's stable R-value allows cooling equipment to be designed based on actual product performance. Insulation materials such as XPS that rely on captive gases, must be designed with its Fresh to Aged thermal drift in mind to avoid declining unit performance.

Neopor Plus GPS holds its R-value, doesn't retain moisture and maintains its physical properties even after undergoing severe freeze thaw environmental testing.

Table 1: Typical Properties of Neopor Plus 10 and Neopor Plus 20 GPS Insulation Boards

Product	Neopor Plus 10	Neopor Plus 20
Property and Test Method	Value	Value
R-Value ASTM C518 ¹		
At 20°F mean, F-ft ² -h/Btu	5.1	5.1
At 55°F mean, F-ft ² -h/Btu	4.8	4.8
Compressive Strength, ASTM D1621, psi, min	10	20
Water Vapor, Permeance ASTM E96, perm, max	5.0	3.5
Moisture Content %, ASTM C1512, Freeze Thaw Environmental Cycling, 48 days	0.03	0.04
Water Capillarity	None	
Water Affinity	Hydrophobic	
Surface Burning Characteristics ASTM E84 ²		
Flame Spread	5	
Smoke Developed	25	

¹ Properties reported are typical for 1" of Neopor Plus foam based on ASTM C578 test methods.

² Flame Spread and Smoke Developed ratings are not presented to reflect hazard or any other material under actual fire conditions.

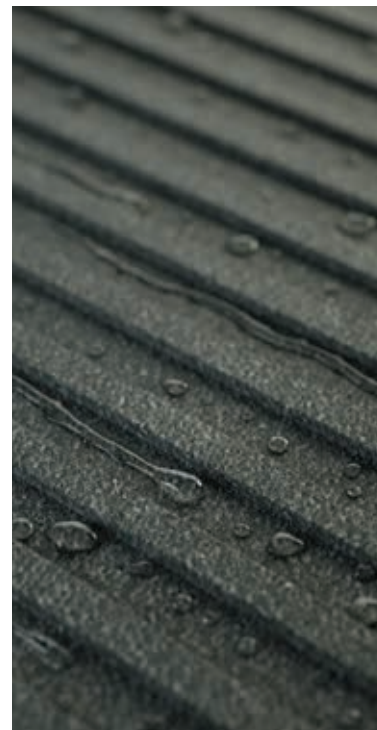
Table 2: Nominal Insulation Thickness³

Neopor Plus 10 Neopor Plus 20	Walk In Cooler Walls	Freezer Walls	Freezer Floor
EISA 2007 Requirements	Min. R- Value: 25	Min. R- Value: 32	Min. R-Value: 28
Board Thickness (In.)			
Service design at 20° F	5.0"	6.5"	6.0"
Service design at 55° F	5.5"	7.0"	6.0"

³ Board thickness have been rounded up, consult your firms architect, engineer and or design specialists for exact measurement.

Table 3: Approximate Insulation Board Weight

Board weight per 4' x 8' by 5"	Lbs.
Neopor Plus 10 psi	14.0
Neopor Plus 20 psi	19.3



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