



TECHNICAL NOTE #102

HD-EPS INSULATION TECHNICAL SPECIFICATIONS

Physical Property Specifications of Cellofoam® High-Density EPS Insulation¹ Specification Reference: ASTM C578

High density expanded polystyrene (HD-EPS) insulation produced by Cellofoam North America Inc. ("Cellofoam") is a rigid, foamed plastic with resilient closed cells molded in a range of densities and sizes to meet your application and specification requirements. Our HD-EPS is produced with modified bead containing a fire retardant and provides all of the characteristics required for long-term performance: permanent R-Value, inherent water resistance, excellent physical strength, and dimensional stability. Cellofoam HD-EPS is UL Certified (UL ER7260-01), meets all ASTM C578 properties, is 100% recyclable, contains no CFC, HCFC or HFC, and does not support mold or fungal growth.

Cellofoam® HD-EPS provides a high R-Value at a comparatively low cost, especially compared to XPS and ISO, making it the insulation choice for roof, exterior and interior wall, below grade, cold storage and other applications. Several laminated polymeric facer options and formulations with insect/termite resistance are also available.

Cellofoam® High Density EPS Properties ¹	Units	25 PSI	40 PSI	60 PSI
ASTM C578 TYPE	N/A	IX	XIV	XV
Compressive Resistance @ 10% def., min.	psi (kPa)	25 (173)	40 (276)	60 (414)
Density	lb/ft ³ (kg/m ³)			
Min.		1.8 (28.8)	2.4 (38.4)	3.0 (48.0)
Nominal		2.0 (32.0)	2.5 (40.1)	3.0 (48.0)
Thermal Resistance ² of 1.0 in. thickness, min.	°Fft ² /Btu (°Cm ² /W)			
at 25°F		5.00 (0.881)	5.05 (0.889)	5.10 (0.898)
at 40°F		4.76 (0.838)	4.85 (0.854)	5.05 (0.889)
at 75°F		4.35 (0.766)	4.50 (0.793)	4.60 (0.810)
Flexural Strength, min.	psi (kPa)	50 (345)	60 (414)	75 (517)
Water Vapor Permeance of 1.0 in. thickness, max. perm	ng/Pa·s·m ²	2.5	2.5	2.5
Water Absorption ³ by total immersion, max.	volume %	2.0	2.0	2.0
Oxygen Index, min.	volume %	24.0	24.0	24.0
Flame Spread Index	N/A	< 20	< 20	< 20
Smoke Developed Index	N/A	150-300	150-300	150-300

1. Typical physical properties are based on data provided by resin manufacturer, independent test agencies, and Cellofoam.
2. R means resistance to heat flow. The higher the R value, the greater the insulating power.
3. Values shown are maximums per ASTM C578 specifications. Actual tested values are typically far less.

WARNING: This product is combustible and if exposed to a fire of sufficient heat and intensity may burn rapidly. It should not be left exposed or inadequately protected. Consult specific instructions and applicable building codes for use of this product.



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