



EPS INSULATION

TYPICAL PHYSICAL PROPERTIES

Typical Physical Properties of Cellofoam® EPS Insulation

Expanded Polystyrene (EPS) Insulation produced by Cellofoam North America Inc. (Cellofoam) is a rigid closed cell foamed plastic with fire retardant that is molded in a range of densities and finished products that meet application specifications and end use requirements. Cellofoam EPS Insulation products may be laminated using a wide variety of facer options based on the application and have all the characteristics required for long-term performance that include high permanent "R" value, inherent water resistance, excellent physical strength and dimensional stability. Cellofoam EPS Insulation products provide a low cost, energy saving solution, making it the product insulation of choice for Permanent Void Fill products or Nonstructural Sheathing / Underlayment applications in Roofing, Roof Recovery, Exterior Wall, Perimeter Foundation, Under Slab and Cold Storage. Cellofoam manufactures EPS insulation to meet or exceed ASTM C578, *Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation*. The following table lists the *typical* physical properties of Cellofoam EPS Insulation (except where ASTM C578 min or max values are specified), as determined from resin manufacturers, independent test agencies, and internal testing.

Cellofoam® EPS Insulation Typical Physical Properties ¹		Units	ASTM Test	Type I	Type VIII	Type II	Type IX
Density (Nominal)		lb/ft ³	C303 or D1622	1.0	1.25	1.5	2.0
Density (Minimum)		lb/ft ³		0.90	1.15	1.35	1.80
Thermal Resistance							
R-Value ²	at 25° F	(°F ft ² hr) /	C177 or C518	4.35	4.54	4.76	5.00
	at 40° F	Btu per		4.17	4.25	4.55	4.76
	at 75° F	inch		3.85	3.92	4.17	4.35
Compressive Strength at 10% deformation		psi	D1621	10 - 14	13 - 18	15 - 21	25 - 33
Flexural Strength		psi	C203	25 - 30	30 - 38	40 - 50	50 - 75
Water Vapor Permeance 1.0 in. thickness		perm.	E96	2.0 - 3.0	1.5 - 2.8	0.9 - 2.5	0.6 - 1.5
Water Absorption by total immersion		volume %	C272 or C1763	< 1.5	< 1.5	< 1.5	< 1.5
Capillarity		--	--	none	none	none	none
Maximum Service Temperature							
	Long-term	°F	--	167	167	167	167
	Intermittent	°F	--	180	180	180	180
Dimensional Stability maximum		change %	D2126	< 0.5	< 0.5	< 0.5	< 0.5
Coefficient of Thermal Expansion		in/(in °F)	D696	0.000035	0.000035	0.000035	0.000035
Oxygen Index minimum		volume %	D2863	24.0	24.0	24.0	24.0
Flame Spread Index			E84	< 20	< 20	< 20	< 20
Smoke Developed Index			E84	150-300	150-300	150-300	150-300
Fungus & Bacterial Resistance		-	C1338	Will not support bacterial or fungus growth; no food value			

¹ Typical physical properties are based on data provided by resin manufacturer, independent test agencies, and Cellofoam North America Inc. All data is for plain, unlaminated EPS foam.

² R means resistance to heat flow. The higher the R value, the greater the insulating power.



EPS INSULATION TYPICAL PHYSICAL PROPERTIES

Conyers, GA

1917 Rockdale Industrial Blvd.
Conyers, GA 30012

Gainesville, GA

1090 Airport Parkway
Gainesville, GA 30503

Orlando, FL

11237 Astronaut Blvd.
Orlando, FL 32837

Sallisaw, OK

1330 W. Redwood Ave
Sallisaw, OK 74955

Whiteland, IN

150 Crossroads Drive
Whiteland, IN 46184

Winchester, VA

326 McGhee Road
Winchester, VA 22603

800-468-3626

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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. Long-term (several months or more) exposure to ultraviolet radiation will cause discoloration. Protect Cellofoam expanded polystyrene from exposure to hydrocarbons, coal tar pitch, solvents, and solvent fumes. Consult specific instructions and applicable building codes for use of this product.

The performance data herein reflects Cellofoam's expectation based on tests conducted in accordance with recognized standard methods from both internal and independent test laboratories.

Cellofoam North America Inc. is an expanded polystyrene foam manufacturer and not an engineering consulting firm. Thus, it is beyond our scope to provide design services on the specific use for our products. Users of our EPS products should consult with appropriate engineering experts to determine the exact type and specifications of EPS required for their project to meet structural and other design requirements. The sale of these products shall be subject to Terms and Conditions of Sale, including those limiting warranties as set forth in Cellofoam's invoices. No agent, employee, or representative of Cellofoam North America Inc. or its subsidiary or affiliated companies is authorized to modify this disclaimer.