



GARAGE DOOR LINER

Foam Insulation with a High Impact Facer for Superior Strength and Durability in a Garage Door Liner

Cellofoam's Garage Door Liner provides garage door manufacturers with premium rigid foam insulation coupled with a rugged facer. This product is made of an expanded polystyrene (EPS) insulation core with a tough, stiff, puncture resistant, white, High Impact Polystyrene (HIP) facer laminated on one side. Cellofoam's Garage Door Liner reduces heat transfer through garage doors, helping to lower customer energy costs and make the garage more comfortable.

The EPS core of Cellofoam's Garage Door Liner is composed of closed cells with excellent dimensional stability, compressive strength, and water resistance. The core EPS meets or exceeds the requirements of ASTM C578, *Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation*.



ADVANTAGES

Premium Quality: Meets or exceeds ASTM C578 specs for Type I EPS.

High, Stable R-value: Cellofoam's Garage Door Liner contributes an R-value of about 3.9 per inch at 75 deg F and about 4.2 per inch at 40 deg F. Unlike Polyiso or XPS whose blowing agents outgas, EPS contains only air and as a result its R-values do not degrade over decades of use.

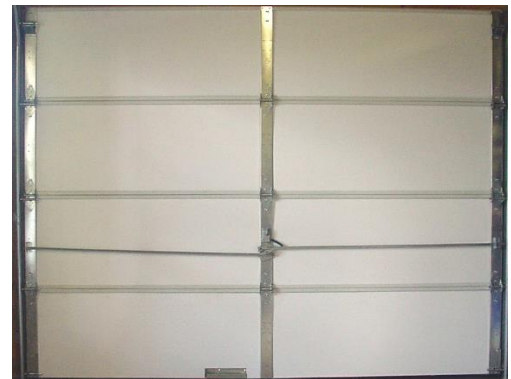
Code Approvals: Underwriters Laboratory Listed, UL ER7260. Please consult appropriate building codes.

Mold and Mildew Resistant: Third party independent testing of expanded polystyrene (EPS) rigid foam insulation per ASTM C1338 testing showed that under laboratory-controlled conditions favorable for the growth of mold that EPS scored no traces of five common types of fungal growth over a 28-day incubation period.

Moisture Resistant: Cellofoam EPS is quick drying and does not readily absorb moisture from the air. Its closed-cell structure reduces the absorption and migration of moisture.

Environmentally Friendly: Cellofoam EPS contains no formaldehyde or ozone-depleting CFCs or HCFCs. Its EPS core is 100% recyclable and may contain recycled material.

Manufactured to Meet Your Specifications: Cellofoam's Garage Door Liner is available in a wide variety of sizes and is custom cut with grooves and kerfs to customer specifications. Typical widths are 16 to 24 inches, lengths from 24 to 120 inches, and thicknesses from 1 to 2 inches. Standard density is 1.0 pcf (ASTM C578 Type I EPS) although other Types and densities are available.





HIP Facer Typical Physical Properties

Cellofoam® Garage Door Liner utilizes a white, high impact polystyrene facer that has the typical physical properties as shown in the table on the right. This laminate has high impact and tensile strength. Complies with UL 94 HB.



EPS Core Typical Physical Properties

Physical Properties	Units	ASTM Test	Typical Values ¹ ASTM C578 Type I
Density (Nominal)	lb/ft ³	C303 or	1.0
Density (Minimum)	lb/ft ³	D1622	0.90
Thermal Resistance			
R-Value ²	at 25° F	C177 or C518	4.35
	at 40° F		4.17
	at 75° F		3.85
Compressive Strength at 10% deformation	psi	D1621	10 - 14
Flexural Strength	psi	C203	25 - 30
Water Vapor Permeance 1.0 in. thickness	perm.	E96	2.0 - 3.0
Water Absorption by total immersion	volume %	C272 or C1763	< 1.5
Capillarity	--	--	none
Dimensional Stability maximum	change %	D2126	< 0.5
Coefficient of Thermal Expansion	in/(in °F)	D696	0.000035
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, un laminated EPS foam.
² R means resistance to heat flow. The higher the R value, the greater the insulating power.

Physical Property	ASTM Test Method	Units	Typical Values*
Tensile Strength, Yield	D638	psi	2900
Elongation, Failure	D638	%	70
Tensile Modulus	D638	psi x 10 ³	275
Flexural Modulus	D790	psi x 10 ³	300
Impact Strength (notched izod, 1/8" bar, 0.010" notch radius)	D256	ft-lb/in of notch	2.1
Melt Flow Rate (200/5.0)	D1238	g/10 min	2.5
Vicat Softening Temp.	D1525	°F	210
Heat Deflection Temp. (264 psi)	D648	°F	183
Specific Gravity	D792	-	1.04

* Typical physical properties are based on data provided by facer manufacturer and are based on average laboratory values and intended as guides only, not as specification limits.

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 EPS 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.

Manufacturing Locations:
Orlando, FL Sallisaw, OK
Whiteland, IN Winchester, VA

800-468-3626

www.cellofoam.com

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 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.