



# Poly Shield® XR

## Superior R-Value, Strength, & Brightness in a Washable Interior Insulated Sheathing for Warehouses & Agricultural Buildings

Cellofoam's Poly Shield® XR foam insulation offers a tough, puncture resistant, white woven polypropylene membrane laminated on one side of an expanded polystyrene (EPS) insulation core and a reflective metalized facer on the other. Poly Shield® XR provides a superior thermal insulation option for the interior of warehouses and agricultural buildings, providing high R-values with either a clean, washable and durable bright white finish or a touch surface that can be painted or stucco finished. The white woven hybrid mesh design provides a high tensile strength which holds up to pressure washing and assuring you a lifetime of use. Renovators recognize its advantages and many architects are specifying Poly Shield® XR in their designs, particularly for pole barns or other buildings using post-frame construction.



The core of Poly Shield® XR is made of premium expanded polystyrene rigid insulation, 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*. When combined in a wall design with dead air space, the reflective metalized facer adds a significant R-value increment to help keep your building warmer in the winter and cooler in the summer.

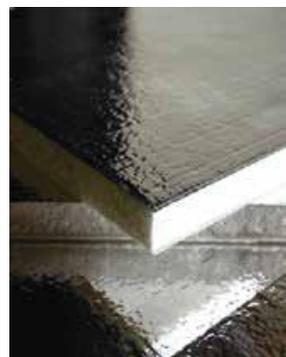
### ADVANTAGES

**Premium Quality:** Meets or exceeds ASTM C578 specs, with excellent dimensional stability & compressive strength. Our white woven polymeric facer is our highest quality and most durable facer. When combined in a wall design facing dead air space, our reflective metalized facer increases R-value significantly.

**High, Stable R-value:** The R-value of Poly Shield® XR is permanent because EPS contains only air. Unlike Polyiso or XPS whose blowing agents outgas, EPS 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:** per ASTM C1338 testing.



**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. Thermal and mechanical properties are unaffected by freeze-thaw cycling.

**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 Your Needs:** Poly Shield® XR sheathing is available in 4 ft wide boards in lengths from 8 to 20 ft, in thicknesses from 1/2 to 6 inches, and in ASTM C578 nominal densities of 1.0, 1.25, 1.5, and 2.0 lb/ft<sup>3</sup>.





**CELLOFOAM®**  
North America Inc.

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## Laminated Facer Typical Physical Properties for Poly Shield® XR

Cellofoam's Poly Shield® XR utilizes a white woven polypropylene coated film with 0.5 mil of sealant resin for puncture resistance and great strength.



Physical Property*	Units	Typical Values	Test Method
Thickness (± 5%)	mil	5.0	Approx as weave ridges affect caliper readings
Yield	in <sup>2</sup> /lb	9,500	
Heat Seal Range	°F	≥ 280	Approximate
Weave	Strands per inch MD/TD	10 x 10	--
Denier	g / 9000 m	850	--
Color	--	Natural White	--
Water Vapor Transmission	g/100in <sup>2</sup> /24hrs US Perms	0.265 0.128	ASTM E1249
Oxygen Transmission Rate	cc/100 in <sup>2</sup> /24hrs	59	ASTM D3985

\* Typical physical properties are based on data provided by facer manufacturer.

## EPS Core Typical Physical Properties for Poly Shield® XR

Cellofoam® EPS Typical Physical Properties <sup>1</sup>	Units	ASTM Test	ASTM C578 Type			
			Type I	Type VIII	Type II	Type IX
Density (Nominal)	lb/ft <sup>3</sup>	C303 or D1622	1.0	1.25	1.5	2.0
Density (Minimum)	lb/ft <sup>3</sup>		0.90	1.15	1.35	1.80
<b>Thermal Resistance</b>						
R-Value <sup>2</sup>	at 25° F	C177 or C518	4.35	4.54	4.76	5.00
	at 40° F		4.17	4.25	4.55	4.76
	at 75° F		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
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
Fungus & Bacterial Resistance	-	C1338	Will not support bacterial or fungus growth; no food value			

<sup>1</sup> 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.

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

**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:

**Conyers, GA**  
**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.