

EPS Insulation

Dyplast manufactures high-quality expanded polystyrene rigid foam insulation. Dyplast EPS is a closed cell, light-weight, resilient rigid foam providing a host of unique properties. When insulation or protection is the goal, rely on EPS insulation to lead the way. No other product within this cost structure provides the thermal efficiency, temperature range, damage and moisture control, flammability rating, or moisture vapor permeability characteristics. Our product's excellent workability characteristics make it easy to handle, shape, and install. In addition, our GeoFoam soil substitute exceeds all requisite standards.

A wide range of core thickness and densities is available for residential, commercial, industrial, or cold storage applications. The high-quality rigid foam is free of voids and cavities. Available in panels, blocks, tapered board, custom shapes, and loose fill, EPS excels in an array of applications. With its high R-values, the resulting lower energy costs can significantly lower energy costs. Wood, metal, and/or FRP skins can be readily added, improving maintenance, strength, and integrity characteristics. With available compressive strengths from 10 to 35 lb/in², the vast majority of construction applications can be accommodated.

VERSATILE APPLICATIONS

Where energy efficiency and cost-effectiveness are primary design considerations, architects, constructors, and homeowners have made EPS the dominant thermal insulation. EPS is not susceptible to thermal aging, so its R-value of up to 4.35/in does not deteriorate over time.

Applications include:

- Building construction (roof, wall, and foundation)
 - Cavity wall and drywall base insulation
 - Exterior and interior foundation wall insulation
 - Roof applications (tapered panel and Holey-Board)
- Refrigeration
 - Building and transportation applications
 - Perfect for walk-in coolers, tanks, vessels
 - Will not absorb odors
- Transportation
 - Refrigerated rail and truck
- Facility construction: pharmaceutical, petrochemical, liquid natural gas, and other facilities
- Marine and Maritime

WARNING

This product will burn and should not be exposed to fire or flame. Cover with an ignition barrier.

Dyplast Products is the preeminent manufacturer of polyisocyanurate and expanded polystyrene rigid foam products, and also distributes a variety of complementary products. With new world-class production facilities in Miami, Florida, Dyplast Products offers its customers unsurpassed technology, responsiveness, wide-ranging product configurations, and state-of-the-art quality control. Our customer-focused staff, combined with our sound financial footing, ensure we deliver incomparable value to our customers far into the future. **For information on Dyplast Products or additional technical data on this product, visit our website at: www.dyplastproducts.com.**

COMPLIANCES AND APPROVALS

EPS insulation products have been tested and found to meet the requirements of the specifications listed below. A Dyplast Products representative can provide you the assistance in determining the suitability of these and any unlisted specifications.

- ASTM C578-10
- ASTM D6817: GeoFoam re: EPS 22 and EPS 29
- FM 4450
- Miami-Dade County, Florida Product Control No. 07-1107.08
- UL Report BRYX.R4812
- ICC-ES Evaluation Report No. 2052
- U.S. Army Corp of Engineers



SUSTAINABILITY

Concerned about the environment? So is Dyplast Products! That's why all our products are manufactured in a CFC/HCFC-free environment. EPS rigid foam insulation is an inert, organic material produced from petroleum and natural gas by-products. This product does not contain chlorofluorocarbons (CFC's) or hydro-chlorofluorocarbons (HCFC's). It provides no nutritive value to plants, animals or micro-organisms. It will not rot, is highly resistant to mildew, and is recyclable.

EPS INSULATION (Expanded Polystyrene Rigid Foam Insulation)

Physical Properties ¹	ASTM Method	Units	EPS 15 or "TYPE I"	EPS 19 or "TYPE VIII"	EPS 22 or "TYPE II"	EPS 29 or "TYPE IX"
Density, minimum	D 303 or 1622	lb/ft ³	0.9	1.15	1.35	1.8
Density Range		lb/ft ³	0.90 to 1.14	1.15 to 1.34	1.35 to 1.79	1.80 to 2.20
Compressive Strength (1% deformation)	D 1621	lb/in ²	>3.6	>5.8	11.30 (7.3 min ⁴)	13.00 (10.9 min)
Compressive Strength (5% deformation)	D 1621	lb/in ²	>8.0	>13.1	21.50 (16.7 min)	26.50 (24.7 min)
Compressive Strength (10% deformation)	D 1621	lb/in ²	>10.2	>16.0	24.20 (19.6 min)	29.70 (29.0 min)
Shear Strength	C 273	lb/in ²	18 to 22	23 to 25	26 to 32	33 to 37
Shear Modulus		lb/in ²	280 to 320	370 to 410	460 to 500	600 to 640
Modulus of Elasticity		lb/in ²	180 to 220	250 to 310	320 to 360	460 to 500
Tensile Strength	D 1623	lb/in ²	16 to 20	17 to 21	18 to 22	23 to 27
Flexural Strength	C 203	lb/in ²	25 to 30	30 to 38	40 to 50	50 to 75
K-Factor: Thermal Conductivity	C 518	BTU • in/hr • ft ² • F				
25 F			0.23	0.22	0.21	0.20
40 F			0.24	0.235	0.22	0.21
75 F			0.26	0.255	0.24	0.23
R-Value: Thermal Resistance (1" thick)	C518	hr • ft ² • F/BTU				
25 F			4.35	4.54	4.73	5.00
40 F			4.17	4.25	4.55	4.76
75 F			3.85	3.92	4.17	4.35
Water Absorption	C 272					
Water Vapor Transmission	E 96	% by Volume	<4.0	<3.0	<3.0	<2.0
Capillarity	-	perm-inch	2.0 to 5.0	1.5 to 3.5	1.0 to 3.5	0.6 to 2.0
Coefficient of Thermal Expansion	D 696	-	none	none	none	none
Maximum Service Temperature		in/in • F	0.000035	0.000035	0.000035	0.000035
Long term exposure		F	167	167	167	167
Intermittent exposure	D 2863		180	180	180	180
Oxygen Index		%	24	24	24	24
Surface Burning Characteristics:	E84	UL Rating:				
Flame Spread		6 inch max.	20	20	20	20
Smoke Developed			300	300	300	300

1. These are nominal values obtained from representative samples, subject to normal manufacturing variances. For additional ranges and specifications, contact Dyplast Products.

2. Installed in a thickness or stored in an effective thickness, as indicated, for a density of 1.0 to 2.0 lb/ft³.

3. All types meet Class 1 UL Classified.

4. "Minimum" per ASTM D6817 for GeoFoam.

FABRICATION AND INSTALLATION

EPS insulation is easily fabricated during manufacture to meet specific design and dimensional requirements. Further, because of its light weight, it is easily stored, handled, and installed on the job site. It can be cut to shape with ordinary tools to assure tight joints, thus eliminating heat loss.

COST EFFICIENCY

EPS insulation typically costs less than other rigid board insulations when compared on the basis of R-value. When evaluating the cost efficiency of rigid insulations, compare prices based on R-value per inch of thickness for comparable lengths and widths.

OTHER EPS PRODUCTS

Visit www.dyplastproducts.com for other EPS products. Additional EPS products include:

- Holey-Board roof insulation for lightweight concrete roof applications
- Architectural shapes for decorative and architectural applications; excellent alternative to wood and concrete
- GeoFoam, a low-cost alternative to soil fills

LIMITATIONS AND DISCLAIMER OF WARRANTIES AND LIABILITIES

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