



Technical Data EPS

EPS insulation as manufactured is a modified expanded polystyrene. EPS is produced from state of the art equipment from the industry's innovator in technology. EPS is a rigid foamed plastic with resilient closed cells molded in a range of densities, sizes and profiles to meet your application/specification requirements.

Insulating products provide all of the characteristics required to long-term performance: permanent R value, inherent water resistance and excellent physical strength and dimensional stability.

The need for greater energy-efficiency in buildings today and the need for lower cost construction has made EPS the logical insulation for building. EPS provides a high R value at a comparatively low cost, and, therefore, is the insulation of choice for: o Panel Core o Cavity Wall Insulation o Roof Insulation o Non-Structural Sheathing o Perimeter Insulation o T & G Sheathing o Wall Systems o Plaster/Drywall Base o Exterior Insulation o Masonry Fill Insulation o Cold Storage Insulation o Styrofoil® Sheathing.

Typical Physical Properties of EPS Insulation:

Property		Units	ASTM Test				
Density (Nominal)		pcf		1.0	1.25	1.5	2.0
Thermal Conductivity	at 40F	BTU/(hr.)	C177 or	0.24	0.235	0.22	0.21
K Factor	at 75F	(sq. ft.) (F/in.)	C518	0.26	0.255	0.24	0.23
Thermal Resistance	at 40F	per inch	—	4.17	4.25	4.55	4.76
Values (R)*	at 75F	thickness		3.85	3.92	4.17	4.35 ➔
Strength Properties							
Compressive 10% Deformation		psi	D1621	10-14	13-18	15-21	25-33
Flexural		psi	C203	25-30	32-38	40-50	55-75
Tensile		psi	D1623	16-20	17-21	18-22	23-27
Shear		psi	D732	18-22	23-25	26-32	33-37
Shear Modulus		psi	—	280-320	370-410	460-500	600-640
Modulus of Elasticity		psi	—	180-220	250-310	320-360	460-500
Moisture Resistance							
WVT		perm. in.	C355	1.2-3.0	1.1-2.8	0.9-2.5	0.6-1.5
Absorption (vol.)		%	C272	less than 2.5	less than 2.5	less than 2.0	less than 1.0
Capillarity		—	—	none	none	none	none
Coefficient of Thermal Expansion							
		in./in. (F)	D696	0.000035	0.000035	0.000035	0.000035
Maximum Service Temperature							
Long-term		°F	—	167	167	167	167
Intermittent				180	180	180	180
Oxygen Index		%	D2863	30.4	30.4	30.4	30.4
Dimensional Stability		% Change	D2126	max. 2.0	max. 2.0	max. 2.0	max. 2.0
Toxicity			Laboratory Reports	Approximately the same as burning wood, paper or cardboard.			
Fungus & Bacterial Resistance			F.H.A. Test Procedures	Will not support bacterial or fungus growth; no food value.			

Advantages

- Low material and installation costs
- Available in a wide range of sizes
- Can be obtained in various densities
- Easy to handle and apply
- Simple to cut and shape with common tools
- Provides an excellent surface for laminate base
- Excellent bond with drywall and non-solvent type adhesives
- Clean, odorless, non-irritating to skin
- Restricts moisture penetration

Characteristics

- Low thermal conductivity
- Reflective white color
- Effective over wide temperature range
- High strength to weight ratio
- Will not twist or warp
- Unaffected by vibration
- Non-dusting
- Resistant to most acids and alkalis
- Does not support bacterial growth

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