



EPS Insulation

EPS (Expanded Polystyrene) Insulation is a moisture resistant closed cell foam which contains no ozone depleting CFCs or HCFCs and is 100% recyclable.

EPS offers outstanding flexibility in design and is ideal for most construction needs, offering the best insulating value per dollar spent of any material available today. Additionally, its long-term insulation value is assured since aging has absolutely no effect upon performance.

Features

- **Low Moisture Absorption:** Moisture absorption rates decrease as density increases, but are still minimal. Material thickness can increase moisture absorption performance.
- **Inert:** Experiences no physical or chemical breakdown over time. No nutrient value to animals, insects, organisms. No nutrient value to bacterial growth including mold.
- **No Leachates:** Will not contaminate the surrounding environment.
- **Design Flexibility:** Can be provided in various shapes and sizes as needed.

Design Cautions

Flammability: EPS is combustible and should not be exposed to flame or other ignition sources. EPS should be covered with a thermal barrier or otherwise installed in accordance with applicable building code requirements.

Solvent Damage: EPS is susceptible to damage by petroleum based solvents and their vapors. Protect with vapor barrier covering and/or use compatible adhesives when applicable.

Ultraviolet Damage: Extended exposure to sunlight causes minor discoloration and surface dusting. Shield from direct sunlight for prolonged periods of time.

Technical Data

Meets or exceeds physical and thermal property standards as established in ASTM C 578

Physical Properties	Units	ASTM Test	Type XI	Type I	Type VIII	Type II	Type IX	Type XIV
Compressive Resistance at 10% Strain Deformation (2" cube)	Min psi (kPa)	D 1621, C 165	5.0 (35)	10.0 (69)	13.0 (90)	15.0 (104)	25.0 (173)	40.0 (276)
Flexural Strength	Min psi (kPa)	C 203	10.0 (70)	25.0 (173)	30.0 (208)	35.0 (240)	50.0 (345)	75.0 (517)
Thermal Resistance (R-Value)* 75 ± 2° F (24 ± 1° C) 40 ± 2° F (4.4 ± 1° C)	Min R" for 1" thickness	C 177, C 518	3.1 (0.55) 3.3 (0.59)	3.85 (0.67) 4.17 (0.0)	3.92 (0.69) 4.25 (0.74)	4.17 (0.73) 4.55 (0.77)	4.35 (0.76) 4.76 (0.80)	4.2 (0.74) 4.6 (0.80)
Thermal Conductivity (K-Value)* 75 ± 2° F (24 ± 1° C) 40 ± 2° F (4.4 ± 1° C)	BTU/(hr) (Sq.Ft.) (F/in.)	C 177, C 518	0.323 (1.82) 0.303 (1.70)	0.260 (1.48) 0.240 (1.37)	0.255 (1.46) 0.235 (1.35)	0.240 (1.37) 0.220 (1.26)	0.230 (1.31) 0.210 (1.20)	0.238 (1.35) 0.217 (1.25)
Coefficient of Thermal Expansion	In./In.)(F)	D 696	0.000035	0.000035	0.000035	0.000035	0.000035	0.000035
Moisture Resistance Water Absorption by total immersion	% by volume Max	C 272	4.0	4.0	3.0	3.0	2.0	2.0
Water Vapor Permeability of 1" (25.4 mm) thickness max perm	Max perm/in (ng/Pa*s*m ²)	E 96	5.0 (287)	5.0 (287)	3.5 (201)	3.5 (201)	2.0 (115)	2.5 (143)
Oxygen Index	Min volume %	D 2863	24.0	24.0	24.0	24.0	24.0	24.0
Dimensional Stability (Change in dimensions)	Max %	D 2126	2.0	2.0	2.0	2.0	2.0	2.0
Max. Service Temperature Long Term / Intermittent	F		167 / 180	167 / 180	167 / 180	167 / 180	167 / 180	167 / 180
Flame Spread		E84-81A	20	15 @ 6"	5 @ 4"	5 @ 4"	15 @ 4"	<25 @ 4" max
Smoke Developed		E84-81A	150-300	95-125	105-190	2-235	20-145	<450 @ 4" max
Density, minimum	Min lb/ft ³ (kg/m ³)	C 303	0.70 (12)	0.90 (15)	1.15 (18)	1.35 (22)	1.80 (29)	2.40 (38)
Density, nominal	lb/ft ³		0.75	1.00	1.25	1.50	2.00	2.50

*R means resistance to heat flow. The higher the R-Value, the greater the insulating power. Federal Trade Commission requires R-Value publication at 75° mean temperature of all insulations. Aged R-Values of alternate products should be compared to determine long-term benefit. Some insulations lose R-Value over time.



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