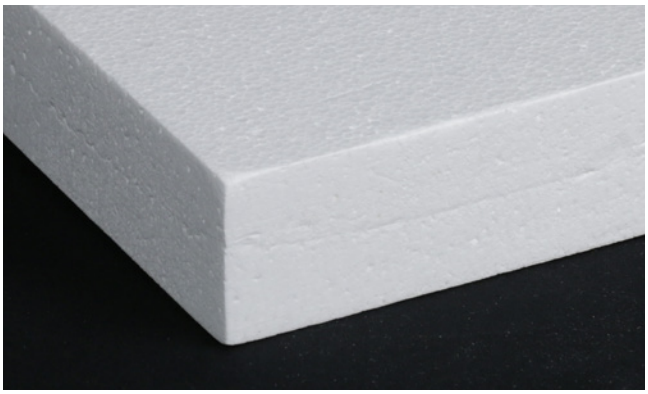
WeatherBond **EPS**

Flat



Overview

WeatherBond's Flat EPS is a rigid insulation board composed of closed-cell, lightweight expanded polystyrene (EPS). This product is available in a wide range board sizes and densities that meet or exceed the requirements of ASTM C578, Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation. InsulFoam Flat offers a long-term, stable R-value and offers excellent dimensional stability, compressive strength, and water resistance.

Features and Benefits

- **Labor and cost savings:** no complicated filler panel systems; can be installed in a single layer for thicknesses up to 40"
- **Environmentally friendly:** contains no ozone-depleting blowing agents, may contain recycled material, and is 100% recyclable if removed or replaced
- **Stable R-value:** thermal properties will remain stable over the material's entire service life, no thermal drift
- **Moisture and mold resistance:** does not readily absorb moisture from the environment, does not sustain mold or mildew growth
- **Proven performance:** manufactured using the same chemistry since the mid-1950s
- **Variety of compressive strengths:** available in more compressive strengths than comparable insulation products

Panel Characteristics

Flat EPS is available in 4' x 4' (1220 mm x 1220 mm) and 4' x 8' (1220 mm x 2440 mm) standard sizes and thickness from ¼" to 40". Custom lengths, widths, and densities are available with minimal lead time.

Applications

Flat EPS is well-suited for a variety of single-ply roof systems, including EPDM, TPO, and PVC, and assembly types, including ballasted, mechanically fastened, and fully adhered.

Installation Considerations

- Install only as much insulation as can be covered by a roof membrane system, and/or made watertight by the end of each day.
- Flat EPS should not be exposed directly to solvent- or petroleum-based adhesives and sealants.
- Allow approximately a ¼" space between insulation and vertical surfaces or roof projections. Do not force or jam product into place.
- In re-cover applications, ensure no moisture is trapped in the new or existing roofing system.

Loose-Laid Insulation

Install Flat EPS with continuous side joints and end joints, staggered so they are offset by a minimum of 12" from the end joints in adjacent rows. Insulation should abut tightly against adjacent boards. Joints greater than ½" should be filled with the same insulation that is being used in the field of the roof. If insulation is being installed over a thermal barrier or existing layer of insulation, or under a cover board, all joints must be offset a minimum of 6" between layers. When installing Flat EPS directly to a metal deck, the edges of the insulation parallel to the deck ribs must be solidly supported and centered on the ribs.

Additionally, for metal decks, ensure that the insulation has a thickness that is adequate to span the rib openings. When conditions dictate, in order to prevent wind blow-off or damage during installation, loose-laid insulation should be weighed down or tacked into place with a minimal quantity of mechanical fasteners.

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EPS Weight Guide - Weight per SF in lbs

	Type I 10 PSI	Type VIII 15 psi	Type II 20 psi	Type IX 25 psi	Type XIV 40 psi	Type XV 60 psi
Nominal Density (pcf)	1	1.25	1.5	2	2.5	3
Thickness in inches						
0.25	0.02	0.03	0.03	0.04	0.05	0.06
0.5	0.04	0.05	0.06	0.08	0.10	0.13
0.75	0.06	0.08	0.09	0.13	0.16	0.19
1	0.08	0.10	0.13	0.17	0.21	0.25
1.25	0.10	0.13	0.16	0.21	0.26	0.31
1.5	0.13	0.16	0.19	0.25	0.31	0.38
1.75	0.15	0.18	0.22	0.29	0.36	0.44
2	0.17	0.21	0.25	0.33	0.42	0.50
2.25	0.19	0.23	0.28	0.38	0.47	0.56
2.5	0.21	0.26	0.31	0.42	0.52	0.63
2.75	0.23	0.29	0.34	0.46	0.57	0.69
3	0.25	0.31	0.38	0.50	0.63	0.75
3.25	0.27	0.34	0.41	0.54	0.68	0.81
3.5	0.29	0.36	0.44	0.58	0.73	0.88
3.75	0.31	0.39	0.47	0.63	0.78	0.94
4	0.33	0.42	0.50	0.67	0.83	1.00
4.25	0.35	0.44	0.53	0.71	0.89	1.06
4.5	0.38	0.47	0.56	0.75	0.94	1.13
4.75	0.40	0.49	0.59	0.79	0.99	1.19
5	0.42	0.52	0.63	0.83	1.04	1.25
5.25	0.44	0.55	0.66	0.88	1.09	1.31
5.5	0.46	0.57	0.69	0.92	1.15	1.38
5.75	0.48	0.6	0.72	0.96	1.20	1.44
6	0.50	0.63	0.75	1.00	1.25	1.50
6.25	0.52	0.65	0.78	1.04	1.30	1.56
6.5	0.54	0.68	0.81	1.08	1.35	1.63
6.75	0.56	0.70	0.84	1.13	1.41	1.69
7	0.58	0.73	0.88	1.17	1.46	1.75
7.25	0.60	0.76	0.91	1.21	1.51	1.81
7.5	0.63	0.78	0.94	1.25	1.56	1.88
7.75	0.65	0.81	0.97	1.29	1.61	1.94
8	0.67	0.83	1.00	1.33	1.67	2.00
8.25	0.69	0.86	1.03	1.38	1.72	2.06
8.5	0.71	0.89	1.06	1.42	1.77	2.13
8.75	0.73	0.91	1.09	1.46	1.82	2.19
9	0.75	0.94	1.13	1.50	1.88	2.25
9.25	0.77	0.96	1.16	1.54	1.93	2.31
9.5	0.79	0.99	1.19	1.58	1.98	2.38
9.75	0.81	1.02	1.22	1.63	2.03	2.44
10	0.83	1.04	1.25	1.67	2.08	2.50

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Single-Ply Simplified

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Typical Properties and Characteristics

Property	Type I	Type VIII	Type II	Type IX	Type XIV	Type XV	Test Method
Nominal Density (pcf)	1	1.25	1.5	2	2.5	3	ASTM C303
C-Value (Conductance) - per inch BTU/(hr•ft²•°F)	0.26	0.255	0.24	0.23	0.222	0.217	ASTM C518
R-Value (Thermal Resistance) - per inch (hr•ft²•°F)/BTU @75°F	3.85	3.92	4.17	4.5	4.5	4.6	ASTM C518
Compressive Strength (psi, 10% deformation)	14-Oct	13-18	15-21	25-33	40	60	ASTM D1621
Flexural Strength (min. psi)	25	30	35	50	60	75	ASTM C203
Dimensional Stability (maximum %)	2	2	2	2	2	2	ASTM D2126
Water Vapor Permeance (max. perm., 1 inch)	5	3.5	3.5	2	2.5	2.5	ASTM E96
Water Absorption (max. % vol.)	4	3	3	2	2	2	ASTM C272
Capillarity	None	None	None	None	None	None	–
Flame Spread	< 20	< 20	< 20	< 20	< 20	< 20	ASTM E84
Smoke Developed	150-300	150-300	150-300	150-300	150-300	150-300	ASTM E84

* Properties are based on data provided by resin manufacturers, independent test agencies and WeatherBond.

LEED® Information

Pre-consumer Recycled Content	Up to 25%	
Post-consumer Recycled Content	0%	
Manufacturing Location(s)	Anchorage, AK Puyallup, WA Dixon, CA Chino, CA	Mead, NE Aurora, CO Phoenix, AZ Lakeland, FL

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