

Product Information

Expanded Polystyrene Insulation Board



DESCRIPTION:

Expanded Polystyrene (EPS) in Exterior Insulation and Finish Systems (EIFS) Expanded Polystyrene (EPS) is a lightweight, rigid, closed-cell foam plastic insulation material widely used as the primary insulation layer in Exterior Insulation and Finish Systems (EIFS). EIFS is a non-load-bearing exterior wall cladding that provides continuous insulation, energy efficiency, moisture management (in drainage systems), and a decorative finish. In EIFS, EPS boards attach to the substrate (via adhesive, mechanical fasteners, or both), then cover with a reinforced base coat (typically polymer-modified cementitious material embedded with fiberglass mesh) and a textured protective finish coat. EPS is the most common insulation choice due to its excellent thermal performance (approximately R-4 per inch), dimensional stability, low moisture absorption, partial vapor permeability, ease of cutting/shaping for architectural details, and cost-effectiveness.



KEY CHARACTERISTICS of EPS FOR EIFS:

- **Density** — Most commonly Type I (nominal 1.0 lb/ft³ or ~16 kg/m³), though higher densities (up to Type II or IX) may be approved for specific systems or impact resistance.
- **Form** — Molded flat boards, typically 2 ft x 4 ft (610 mm x 1220 mm), with thicknesses ranging from 1–6 inches (25–152 mm) standard, though thicker boards possible with system approval.
- **Properties** — Closed-cell structure for water resistance; aged/conditioned for stability (to prevent warping); flame-retardant additive included; recyclable and free of CFCs/HCFCs.
- **Benefits in EIFS** — Provides continuous insulation to reduce thermal bridging; lightweight for easy handling; compatible with adhesives and base coats; allows for custom shapes in architectural designs.

BASIC STANDARDS FOR EPS IN EIFS: EPS used in EIFS must meet stringent requirements beyond general insulation to ensure compatibility, durability, and performance in exterior exposure.

- **ASTM E2430/E2430M** – The primary standard: Standard Specification for Expanded Polystyrene (EPS) Thermal Insulation Boards for Use in Exterior Insulation and Finish Systems (EIFS) and EIFS with Drainage. It covers flat, uncoated EPS boards, including requirements for virgin material content, dimensional tolerances (length, width, thickness, edge trueness, flatness, squareness), aging/conditioning for stability, low moisture content, and other physical properties specific to EIFS applications.
- **ASTM C578** – Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation. EIFS-grade EPS typically complies with Type I requirements (minimum density 0.90 pcf, compressive strength ≥10 psi, etc.), as a baseline.
- **Additional considerations:** Compliance with building codes (e.g., IBC, IRC, IECC for continuous insulation); system-specific approvals from manufacturers and guidelines from the EIFS Industry Members Association (EIMA).

Note that not all EPS is suitable for EIFS—only boards manufactured and certified to these standards (often labeled accordingly) should be used to avoid issues like poor adhesion or deformation

ATTENTION/IMPORTANT

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