

Product Information

Extruded Polystyrene (XPS) Insulation Board



DESCRIPTION:

Extruded Polystyrene (XPS) is a rigid, closed-cell foam plastic insulation material used as the insulation layer in some Exterior Insulation and Finish Systems (EIFS). XPS is produced through a continuous extrusion process, resulting in a uniform, moisture-resistant board with a smooth skin surface. In EIFS applications, XPS 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. While **expanded polystyrene (EPS) remains the most common insulation in EIFS** due to easier shaping and adhesion, XPS is selected in specific systems for its superior moisture resistance, higher compressive strength, and enhanced long-term thermal performance in certain conditions.



KEY CHARACTERISTICS OF XPS FOR EIFS:

- **Density** — Typically Type IV or higher (25–60 psi compressive strength, ~1.6–3.0 lb./ft³ or 25–48 kg/m³), providing greater rigidity.
- **Form** — Extruded flat boards, commonly 2 ft x 8 ft (610 mm x 2440 mm) or similar, with thicknesses from 1–4 inches (25–102 mm) or more, often scored for easier installation.
- **Properties** — Fully closed-cell structure for minimal water absorption; high compressive strength; flame-retardant additives; distinctive colored skin (often blue, pink, or green depending on brand); stable R-value over time in dry conditions; free of CFCs (modern formulations use lower-GWP blowing agents).
- **Benefits in EIFS** — Excellent moisture resistance (lower water absorption than EPS); higher initial R-value (approximately R-5.0 per inch); superior strength for impact-prone areas or thinner profiles; durable in assemblies requiring enhanced water management.

BASIC STANDARDS FOR XPS IN EIFS:

XPS used in EIFS must comply with general polystyrene insulation standards, with system-specific testing for adhesion (often requiring rasping or scoring the skin for better base coat bonding), durability, and fire performance in wall assemblies.

- **ASTM C578** – Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation. XPS typically meets Type IV, V, VI, or VII requirements (minimum compressive strength 25–60 psi, density ~1.6–3.0 pcf, thermal resistance R-5.0 per inch at 75°F, low water absorption, etc.), serving as the primary baseline for physical properties.
- **Additional considerations:** No direct equivalent to ASTM E2430 (which is specific to EPS for EIFS); instead, compliance verified through system evaluations (e.g., ICC-ES reports, NFPA 285 for fire propagation in multi-story assemblies, ASTM E84 for surface burning); building codes (e.g., IBC, IRC, IECC for continuous insulation and energy efficiency); system-specific approvals from manufacturers and guidelines from the EIFS Industry Members Association (EIMA).

Note: That XPS is less common than EPS in EIFS and requires manufacturer-approved systems to ensure proper adhesion and performance—generic XPS boards may not be suitable without evaluation. For project-specific details, consult Decoplast, as they conduct proprietary testing and provide warranties for XPS integration beyond general standards.

ATTENTION/IMPORTANT

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