

DID YOU KNOW?

EPS (Expanded Polystyrene) Panels

- **Thermal Insulation:** EPS panels have a high R-value, providing effective thermal resistance to help improve energy efficiency in buildings.
- **Lightweight:** Their low density makes them easy to handle and install, reducing labor costs.
- **Moisture Resistance:** EPS is resistant to moisture absorption, which helps prevent mold growth and maintains insulation performance.
- **Sound Insulation:** They also offer soundproofing benefits, making them suitable for various building applications.
- **Versatility:** EPS panels can be manufactured in various sizes, thicknesses, and configurations to suit different construction needs.

Common Applications

- Walls, roof and floor: Widely used as insulation for thermal performance
- Cold storage facilities

Key Technical Specifications

- Density: 15–30 kg/m³
- Thermal Conductivity: Lower than 0.1
- Compressive Strength: 60–250 kPa
- Water Absorption: Very low
- Operating Temp: -50°C to +75°C
- Untreated Fire Class: Class C / Combustible

Risks with EPS Panels

- **Combustibility:** Standard EPS is combustible; it ignites and contributes to fire spread, releasing smoke and toxic fumes.
- **"Sandwich" Panel Risk:** If core is unprotected, fire can spread unseen within panels.
- **Molten Drips:** Can lead to further fire propagation.
- **Ignition Sources:** Vulnerable to hot work, electrical faults, etc.

Other Considerations:

- **Moisture:** Improper sealing can lead to absorption, compromising insulation and encouraging mold.
- **Pests:** Can attract rodents and insects.
- **Chemical Sensitivity:** Certain chemicals can degrade performance.
- **Mechanical Damage:** Susceptible to impact damage during handling or use

NFPA AND FM Global

- **Combustible Materials:** Standard EPS is classified as combustible.
- NFPA requires combustible insulation like EPS to be protected by a thermal barrier or automatic sprinkler systems to limit fire spread (e.g. in NFPA 13, 101).
- Both NFPA and FM Global prioritize non-combustible materials or demand robust fire protection for combustible ones to ensure life safety and property protection
- **Recommendations:** Insurers recommend the use of mineral wool or rock wool core panels, as they are non-combustible.
- Polyisocyanurate foam core panels are supported by FM Global standards and NFPA 286 as they have good fire resistance

How can Marsh help?

- Marsh conducts property risk surveys that include the evaluation of emerging risks associated with EPS panels. This includes assessing the fire safety measures, installation practices, and potential vulnerabilities related to the use of EPS panels in a building.
- Marsh verifies that regulatory requirements are being met, best practices employed, and that insurance industry standards are being applied. Authoritative frameworks such as SANS and NFPA are used as a guide in risk recommendations.
- What differentiates us in the marketplace?
 - Our deep technical engineering expertise combined with Marsh's strong understanding of the insurance industry and underwriting.
 - A global team with more than 250 specialists in 40 countries.

Talk To Us

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