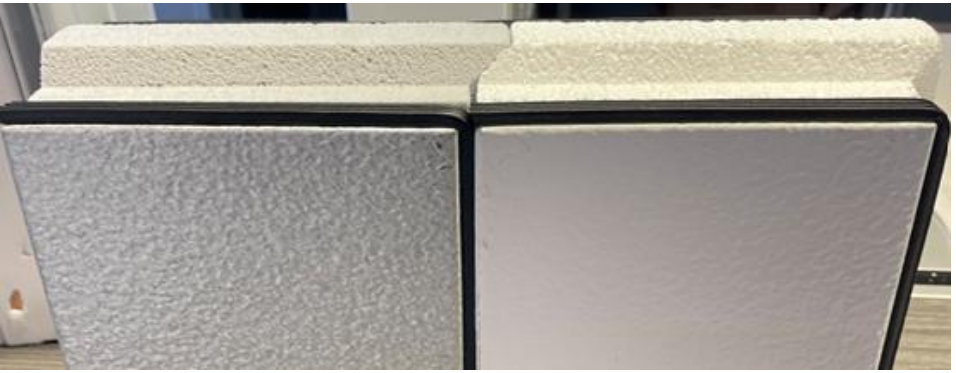
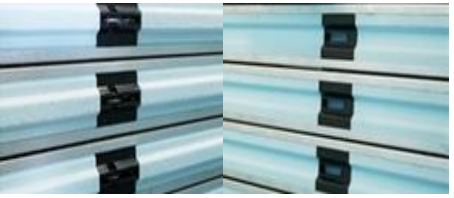
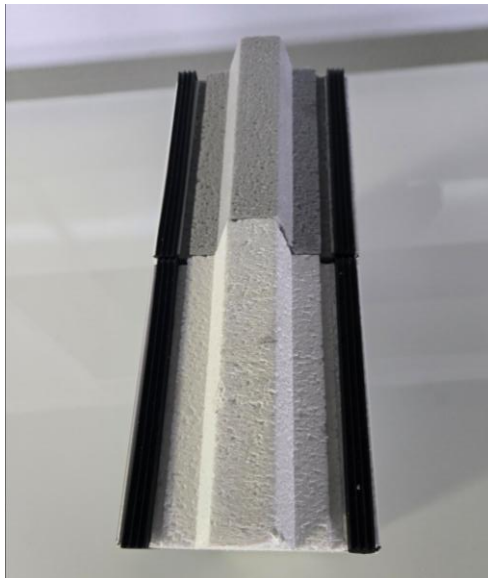
INSULATION







2 Types of Polystyrene Foam Insulation, EPS and XPS

- **Expanded Polystyrene, EPS is produced by expanding polystyrene beads with steam.**
- **Extruded Polystyrene, XPS is made by extruding molten polystyrene and then expanded using blowing agents.**

Benefits of EPS and XPS Insulation Compared to PU (Polyurethane)

- **Moisture Resistant:** XPS/EPS typically has a **closed-cell structure**, making it more resistant to moisture absorption compared to open-cell PU foam. This property is crucial for insulation materials, especially in environments where moisture ingress can compromise the insulation's effectiveness over time.
- **R-Value Retention:** XPS/EPS tends to maintain its **thermal resistance (R-value)** over time, whereas PU foam may experience a decrease in R-value due to aging and moisture absorption. XPS/EPS can provide consistent insulation performance throughout its lifespan.
- **Strength and Durability:** XPS/EPS is known for its **high compressive strength**, making it suitable for applications where the insulation may experience heavy mechanical loads or pressure, it's more resistant to deformation and can maintain its **structural integrity** better than PU foam under similar conditions.
- **Fire Resistance:** XPS/EPS has a **higher fire resistance** compared to PU foam. This property can be critical in buildings where fire safety regulations require insulation materials with specific fire ratings to enhance overall safety measures.
- **Environmental Impact:** XPS/EPS can be manufactured with a **lower environmental impact** compared to PU foam, especially if recycled content or eco-friendly production methods are used. This aspect is increasingly important in **sustainable** construction practices and green building certifications.

- **Extruded Polystyrene (XPS, Gray foam)**

55°F Coolers	R Value = 28.8
20°F Freezers	R Value = 32.4

- **Expanded Polystyrene (EPS, White foam, Cooler Express)**

2 Pound Freezers:	
At 40°F	R Value = 19.04
At 75°F	R Value = 16.8
1 Pound Coolers:	
At 40°F	R Value = 16.8
At 75°F	R Value = 15.44

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