



EPS Foam Density Comparison – 1.0, 1.25, 1.5, and 2.0 pcf

Expanded Polystyrene (EPS) foam is produced in various densities, offering different levels of strength, insulation, and water resistance.

The chart below compares key mechanical and physical properties of four common densities

Property	1.0 pcf	1.25 pcf	1.5 pcf	2.0 pcf
Density	1.0 lb/ft ³	1.25 lb/ft ³	1.5 lb/ft ³	2.0 lb/ft ³
Compressive Strength	10–13 psi	15–18 psi	20–24 psi	25–30 psi
Flexural Strength	25–30 psi	35–40 psi	45–50 psi	50–60 psi
Tensile Strength	18–22 psi	25–28 psi	30–35 psi	35–40 psi
R-Value (per inch)	≈ 3.85	≈ 4.05	≈ 4.20	≈ 4.35
Moisture Resistance	Moderate	Improved	Good	Excellent
Weight	Lightweight	Slightly heavier	Rigid and stable	Heavier and most rigid
Cost	Lowest	Low–Moderate	Moderate–High	Highest
Typical Applications	Standard molded coolers,	Improved packaging,	High-performance	Structural panels, marine flotation,

