



EPE ROOF INSULATION

InsuMax & InsuMax+

Superior Insulation, Maximum Comfort...

Product Datasheet

PRODUCT OVERVIEW

Essen E-Com Ltd presents **InsuMax** and **InsuMax+**, a premium range of high-performance, closed-cell Expanded Polyethylene (EPE) foam laminated with high-quality reflective film; engineered for thermal and acoustic insulation in residential, commercial, and industrial roofing systems.

Thermal Efficiency Low thermal conductivity reduces heat gain/loss across the roof envelope.	Moisture Resistant Closed-cell structure prevents water absorption and mould growth.
Acoustic Damping Reduces impact and airborne noise transmission through the roof.	Easy Installation Lightweight rolls cut cleanly with standard tools and unroll smoothly across any roofing surface; no special adhesives required.

TECHNICAL SPECIFICATIONS

	InsuMax	InsuMax+
Roll Size	1.5 m × 40 m	2.0 m × 50 m
Coverage / Roll	60 m ²	100 m ²
Available Thickness	3 mm · 5 mm · 10 mm	3 mm · 5 mm · 10 mm

Category	Key Parameter	Reference Standard	3 mm	5 mm	10 mm	Unit
THERMAL	Thermal Conductivity (k-value)	ASTM C518	0.034	0.034	0.034	W/(m·K)
	Thermal Resistance (RSI value)	ASTM C518	2.51	3.76	4.89	m ² ·K/W
PHYSICAL	Density	ASTM D3575	20–25	22–28	25–33	kg/m ³
	Compressive Strength (25%)	ASTM D3575	≥ 60	≥ 70	≥ 90	kPa
	Dimensional Stability	ASTM D2126	≤ 2	≤ 2	≤ 1.5	%

TECHNICAL SPECIFICATIONS (CONTINUED)

Category	Key Parameter	Reference Standard	3 mm	5 mm	10 mm	Unit
MOISTURE	Water Absorption (Volume)	ASTM C272	≤ 0.1	≤ 0.1	≤ 0.1	%
	Water Vapor Permeability	ASTM E96	≤ 0.05	≤ 0.05	≤ 0.04	perm·in
FILM	Film Thickness	ISO 4593	23	23	23	µm
	Film Thickness (MPET)	ISO 4593	12	12	12	µm
	Tensile Strength (MD/TD)	ASTM D882	38	38	38	MPa
	Puncture Resistance	ASTM D4833	≥ 15	≥ 15	≥ 18	N
	Elongation at Break	ASTM D882	≥ 80	≥ 80	≥ 80	%
	Surface Emissivity	ASTM E408	≤ 0.05	≤ 0.05	≤ 0.05	
	Surface Reflectivity	ASTM E903	≥ 95	≥ 95	≥ 95	%
ADHESION	Bond Strength	ASTM F904	≥ 1.5	≥ 1.5	≥ 1.5	N/cm
	Heat Ageing Adhesion (70°C)	Internal/ISO 188	Pass	Pass	Pass	
DURABILITY	Alkali Resistance	ISO 175	Pass	Pass	Pass	
	UV Stability (Accelerated)	ASTM G154	Pass	Pass	Pass	
	Corrosion Resistance	ASTM B117	Pass	Pass	Pass	
	Service Temperature	ASTM D3575	-40/+80	-40/+80	-40/+80	°C

APPLICATIONS & USES

Residential Roofing	Commercial & Industrial
• Pitched and flat roof insulation • Villa and bungalow roofs	• Factory and warehouse roofs • Cold storage facilities • HVAC duct wrapping • Agricultural building roofs

Storage & Handling: Store in a cool, dry location away from direct sunlight and open flame. Keep rolls flat or upright on clean pallets. Do not stack heavy materials on top of EPE rolls. Protect from sharp objects during transport.

