AUTOMA

MULTI STYRENE

BUILDING SOLUTIONS

Building & Construction

- ✓Insulation of the building envelope
- ✓Cold storage facilities (Supply of EPS & Polyphen sheets)
- ✓Building systems: ICF, SIPS, void formers & concrete formwork
- ✓Decorative products
- ✓Architectural facades

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Expanded Polystyrene (EPS)

Thermal insulation blocks and sheets for the building industry

Due to its closed cell structure, which inhibits the passage of heat or cold, EPS has a high capacity for thermal insulation. Insulation is the most effective way to improve the energy efficiency in your home.

EPS Features and Benefits

- Excellent thermal insulation.
- Light weight for ease of construction works.
- Mechanical resistance for load bearing insulation applications.
- Low water absorption, unaffected by damp, humidity or moisture.
- Ease of handling, installation and transportation.
- Chemical resistance, compatible with cements and plasters.
- Versatility, can be cut into the shape or size required.
- Ageing resistance.
- Does not induce metal corrosion.

EPS is suitable for

- Office partitions.
- Factory and housing insulation as well as hygienic building structures.
- Pipe and vessel insulation.
- Light weight wall cladding with rendered finish, and profile mouldings.
- Cold rooms, deep freeze facilities, refrigeration.

Automa Multistyrene (PTY) Ltd is IS09001-2015 and ISO14001 - 2015 accredited

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Excellent thermal insulation
100% recyclable
CFC and HCFC free

Technical Properties

PROPERTY	CONDITION	UNIT		EPS GRADES					
				P32	P24	P20	Q15	S15	P12
Nominal Density:		Kg/m³		32	24	20	15	15	12
Minimum Density:				28,80	21,60	18,00	14,40	13,50	10,80
WATER PROPERTIES									
Vapour Transmission	38° 88%RH	ngm/Ns	Max	4,2	4,2	5,0	6,9	8,0	
Vapour Resistivity		MNs/gm	Min	238	238	200	145	125	
HEAT PROPERTIES									
Termal Heat Conductivity (K-Value)	10°	W/m.K	Max	0,033	0,034	0,035	0,038	0,040	0,045
Thermal Resistance (R-Value)	100mm thick	m².K/W	Max	3,03	2,94	2,86	2,63	2,5	2,22
Dimensional Stability	7 days 80°	%	Max	1,0	1,0	1,0	1,0	1,0	1,0
Effect of High Temperature	Long term stable	°C	Max	80	80	80	80	80	80
	Short term stable	°C	Max	100	100	100	100	100	100
STRENGTH PROPERTIES									
Compressive Stress	10% compression	kPa	Min	200	160	110	80	65	6
Cross-breaking Strength	1% nominal	kPa	Min	250	205	150	140	100	80
Safe Working Load	compression	kPa	Min	100	70	45	21	17	15

Biological Resistance

- Does not promote mould growth.
- Offers no food value to insects or rodents.

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POLYPHEN®

A novel fire-resistant insulation foam. At last, the long awaited solution to the world-wide problem of fire risks associated with foam core sandwich panels.

Polyphen® Features and Benefits

- Is a new revolutionary rigid Polystyrene/Phenolic composite foam
- Exhibits excellent fire resistance properties
- Has excellent thermal insulation performance
- Possesses excellent mechanical properties
- Can be manufactured to have significant sound absorbing properties

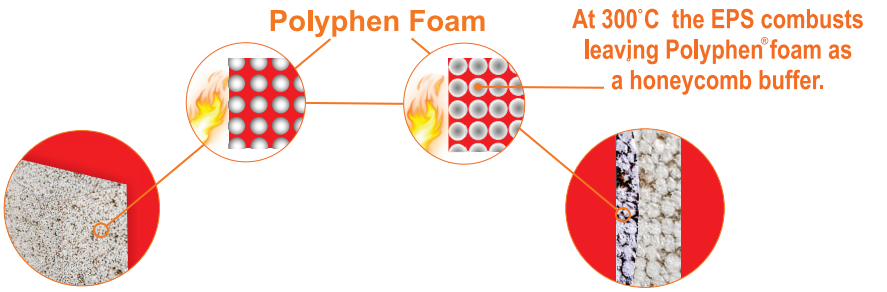
Polyphen® is suitable for

FM Class 1 accredited panels FM 4880, 4881, 4882

- Cold storage and warehousing (steel clad panels)
- Partitioning
- Rendered factory and housing insulation as well as hygienic building structures
- Pipe and vessel insulation
- Residential Applications, e.g. light-weight wall cladding with rendered finish and profile mouldings
- Panels for smoke sensitive occupancies

How Polyphen® works

In a fire situation, the EPS will evaporate at 140˚C and will combust at 300˚C . When this occurs the Polyphen® foam is left in a honeycomb shape and it is this, which acts as a fire buffer



POLYPHEN®

Automa is the only licenced manufacturer of Polyphen in South Africa

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High fire-resistance properties
Excellent mechanical properties
Superior thermal insulation performance

Technical Properties

The physical properties of Polyphen® below vary with the density of the foam. Polyphen® has a neutral pH value and does not induce metal corrosion.

Property	Metric
Density	48-50kg/m3
Compressive Strength (AS 2498.3)	126kPa
Cross Breaking Strength (AS 2498.4)	248kPa
Shear Strength (ASTM C273)	104kPa
Tensile Strength (ASTM D1623)	238kPa
Thermal Conductivity at 25 degrees	0.0368 W/m degrees C
Dimensional Stability (AS2498.6)	
70 degress C, 95% RH, 20 hours	Less than 0.5%
-10 degress C, 20 hours	Less than 0.5%

Acoustics

- 32 kg/m3 density Polyphen® foam has a Noise Reduction Coefficient NRC=0.45 (250-2000 Hz, 30mm thickness)

Biological Resistance

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- Offers no food value to insects or rodents

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Decorative

- ✓Cornice
- ✓Ceiling Roses
- ✓Ceiling Tiles