

Aerobloc™

Expanded Polystyrene Packaging (EPS)



- Lightweight insulation
- Available in different shapes

Expanded Polystyrene Packaging

What is EPS?

EPS is a lightweight insulation material with many attractive properties. EPS beads impregnated with blowing agent are blown and expanded. The expanded beads are then fused and sealed in a mold via steam. EPS is available in different shapes like sheets or boards, blocks and also as tailor-made shapes. The final product consists of 98% air.

Where is EPS used?

EPS is used for all sorts of product packaging. Custom molded to your exact needs, it ensures that any properly treated item arrives in the same condition as it leaves the manufacturing floor – without adding significantly to the weight of the package.

When you need to maintain food and medical items at a stable temperature for extended periods (as low as -65°F and up to +165°F), the excellent insulation properties of EPS will keep your products in perfect condition.

The wide range of useful properties makes EPS a great material for custom applications. It is being used in buoyancy aids, as a shock absorber for safety equipment such as in bicycle helmets and infant car seats. It's useful to note that EPS is rigid and may suffer permanent damage during extreme or multiple impacts. If you need a more flexible material which can recover its shape after impact, take a look at our Expanded Propylene (EPP) or our Extruded Polystyrene (XPS).

EPS is easy to handle, mold, shape and cut. It provides long-lasting solutions, keeping its properties over a long lifetime. Could the combination of these properties lead EPS to offer you a better solution than existing materials you are using? Get in touch to discuss how we can help you to do things better.

What colors are available for EPS?

White is the most common color for EPS packaging products, and we also offer grey or graphite injected EPS with an increased insulation value. Don't be constrained by monochromes, however. The application of a coating will bring your EPS products to life in a multitude of colors.

Can EPS be recycled?

Recyclability of EPS will depend on local recycling infrastructure and is limited in the US. There are several ways to recycle EPS, such as mechanical recycling, dissolution, and chemical recycling. Get in touch to discuss possibilities to recycle your EPS.

There are many reasons why expanded polystyrene (EPS) is among the most common foam packaging materials in use. EPS can be molded into customised solutions designed for an optimal fit as well. Find out if EPS is suitable for your application.

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EPS Properties

Physical Properties ¹	ASTM Method	Units	Type I	Type VIII	Type II	Type IX	Type XIV ²
Density (min)	D1622	lb/ft ³	0.90	1.15	1.35	1.80	2.40
Compressive Strength at 10% Deformation (min)	D1621	lb/in ²	10.0	13.0	15.0	25.0	40
Flexural Strength (min)	C203	lb/in ²	25.0	30.0	35.0	50.0	60
Thermal Conductivity	C518	Btu.in/hr. ft ² .°F					
75°F			0.278	0.263	0.250	0.238	0.238
Thermal Resistance (1" thick) (min)	C518	hr.ft ² .°F/BTU					
75°F			3.60	3.80	4.00	4.20	4.2
Water Absorption (max)	C272	% by Volume	4.0	3.0	3.0	2.0	2.0
Water Vapor Permeability - Transmission (max)	E96	perm-inch	5.0	3.5	3.5	2.5	2.5
Dimensional Stability (max)	D2126	%					
158°F / 97%RH			2.0	2.0	2.0	2.0	2.0
Oxygen Index (min)	D2863	Volume %	24.0	24.0	24.0	24.0	24.0

¹ These are nominal values obtained from representative samples internally or third party tested to meet the requirements of ASTM C578, subject to normal manufacturing variances.

² Not available from Kingspan Miami facility.

For more information on specific building product recommendations and installation guidelines, contact your Kingspan Insulation LLC representative.

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