Eccostock®PP

Flexible, Low Loss, Closed Cell Polyethylene Foam

FLEXIBLE LOW LOSS CLOSED CELL FOAM

Eccostock PP is a closed cell, cross-linked polyethylene foam with low loss, low dielectric, and low density. Due to the low dielectric constant, the materials are essentially transparent to electromagnetic energy. Dielectric constant does not change with frequency and change with temperature is negligible. It offers excellent thermal insulation. Eccostock PP is lightweight and will return to its normal thickness after being compressed. It can be heat sealed to form blocks of material or to make contoured pieces that can be draped over complex objects.
It is tough and weather resistant.

FEATURES AND BENEFITS

- Lightweight
- Low loss, low dielectric, low density
- Flexible material

MARKETS

- Commercial Telecom
- Security and Defense

SPECIFICATIONS

TYPICAL PROPERTIES	ECCOSTOCK PP	
	Eccostock PP-2	**Eccostock PP-4**
Temperature Range °C (°F)	-80 to 85 (-112 to 185)	-80 to 85 (-112 to 185)
Dielectric Constant	1.03	1.06
Compression Strength, kPa @25%(@50%)	35 (100)	70 (150)
Compression Set (% of original thickness)	28	16
Hardness, Shore A	7	15
Loss Tangent	0.0001	0.0001
Density, g/cc (lbs/ft³)	0.032 (1.8 - 2.2)	0.064 (3.6 – 4.4)
Tensile Strength, kg/cm²	2.5	5.5
Elongation %	220	290
Thermal Conductivity, W/m-K	0.040	0.042
Water absorption, g/cm²(lb/ft²) of cut surface	0.04	0.04

Data for design engineer guidance only. Observed performance varies in application. Engineers are reminded to test the material in application.

APPLICATIONS

- Eccostock PP can be used as radomes, blankets, and coverings where radar transparency is desired. It can also be used in a variety of electrical and microwave applications.
- With its low density and being closed cell, it finds uses in ocean buoyancy applications.
- It has been used as a spacer in antenna applications.

AVAILABILITY

- Eccostock PP is available in two densities: 2 lb/ft³(32 kg/m³) and 4 lb/ft³ (64 kg/m³). It is designated as Eccostock PP-2 and Eccostock PP-4.
- Standard sheets are available in 61 x 61 cm (24”x24”) and 122 x 152 cm (48” x 60”) sheets with thickness of 0.32 cm and 0.64 cm (1/8” and 1/4”). Eccostock PP-4 also with thickness of 0.16 cm (1/16”).
- Other sheet sizes are available on special order.

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