EMERSON & CUMING MICROWAVE PRODUCTS

RoHS Compliant

ECCOSTOCK® PP

Flexible, Low Loss, Closed Cell Polyethylene Foam

Material Characteristics

- 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
- Dissipation factor is below 0.0003 at frequencies from 60 Hz to 10 GHz
- Excellent thermal insulation
- ECCOSTOCK® PP is lightweight and will return to its normal thickness after being compressed
- Can be heat sealed to form blocks of material or to make contoured pieces that can be draped over complex objects
- Color is white, surface is smooth

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

Environmental Properties

- ECCOSTOCK® PP is tough and weather resistant
- Low water absorption and vapor transmission
- Has been used in ocean applications
- Chemical Resistance data may be available on special request

Availability

- ECCOSTOCK® PP is available in two densities: 2 lb/ft^3 and 4 lb/ft^3. It is designated as ECCOSTOCK® PP-2 and ECCOSTOCK® PP-4
- Standard sheets are available in 48" x 60" sheets with thickness of 1/8" and 1/4" (0.32cm and 0.64cm)
- Other sheet sizes are available on special order
- For most applications ECCOSTOCK® PP can be supplied with a Pressure Sensitive Adhesive (PSA). Product designation denoting PSA add-on is ECCOSTOCK® PP-X/SS10. Please note the addition of the SS10 PSA reduces the available sheet size to 24" x 24"

Typical Properties

	PP-2	PP-4
Service Temperature, °F (°C)	-112 to 185 (-80.0 to 85.0)	-112 to 185 (-80.0 to 85.0)
Compression Strength, psi @ 25%, (psi @ 50%)	5 (14)	9 (19)
Compression Set (% of original thickness)	28	16
Hardness, Shore A	7	15
Loss Tangent	0.0001	0.0001
Dielectric Constant	1.03	1.06
Density, lbs/ft^3	1.8 - 2.2	3.6 - 4.4
Tensile Strength, kg/cm^2	2.5	5.5
Elongation %	220	290
Thermal Conductivity, (cal)(cm)/(sec)(cm^2)(°C)	0.000096	0.00010
Water Absorption, lb/ft^2 of cut surface	0.04	0.04
Available Thickness	1/8" & 1/4"	1/16" & 1/8" & 1/4"