

ECCOSTOCK® SH

Rigid High Temperature Plastic Foam Sheet Stock

Material Characteristics

- Rigid polyurethane foam, which remains rigid and withstands high temperatures
- Continuous Service Temperature: -94°F to 275°F (-70°C to 135°C).
- Short Time Service Temperature: 325°F (163°C)
- Typical thermal conductivities of ECCOSTOCK® SH are seen around 0.14 (BTU)(in)/(ft²)(hr)(°F), 0.03 Watts/(meter)(°C)
- Unlike most polyurethanes, ECCOSTOCK® SH has an extremely low dissipation factor and low dielectric constant
- Closed cell foam, pink in color, easily machined
- Does not support fungal growth per MIL-STD-810E

Applications

- ECCOSTOCK® SH is primarily used as a high-temperature structural member or thermal barrier in electrical/electronic applications.

Related E&C Products

- ECCOSTOCK® FPH: High temperature foam-in-place casting resin with available bulk density depending on catalyst and mold design. When cured, it has identical properties to our ECCOSTOCK® SH of the same bulk density. (ECCOSTOCK® SH is produced from ECCOSTOCK® FPH under precisely controlled laboratory conditions)

Shipping & Availability

- ECCOSTOCK® SH is supplied in standard sheets 12" x 24" (30.5cm x 61cm) in thicknesses of 1", 2", 3", 4" & 6" (2.5cm, 5cm, 7.6cm, 10cm & 15cm)
- ECCOSTOCK® SH is available in bulk densities of 2, 4, 6, 8, 10, 12, & 14 lbs/ft³ (0.03, 0.06, 0.10, 0.13, 0.16, 0.19 & 0.22 g/cc)
- ECCOSTOCK® SH available in other thicknesses, sizes, and customer specified shapes upon request

Instructions for Use

- ECCOSTOCK® SH at densities less than 3 lbs/ft³ (0.05 g/cc) may warp at temperatures above 200°F (93°C)
- Unicellularity: Not interconnected above 6 lbs/ft³ (0.10 g/cc). However, below this density there is a significant percentage of cells connected.
- ECCOSTOCK® SH can be bonded or sealed using an unfilled epoxy system, ECCOBOND® 45 Clear.

Typical Properties

Bulk Density, lbs/ft ³ (g/cc)	2 (0.03)	8 (0.13)	14 (0.22)
Dielectric Constant (1 MHz)	1.04	1.12	1.25
Dissipation Factor (1 MHz)	0.001	0.002	0.005
Dielectric Strength, volts/mil (Kv/mm)	40 (1.58)	40 (1.58)	40 (1.58)
Compressive Strength, psi (kg/cm ²)	30 (2.1)	250 (17.6)	600 (42.3)
Flexural Strength at 5% strain, psi (Kg/cm ²)	25 (1.8)	225 (15.8)	800 (56.0)
Flexural Modulus, psi (kg/cm ²)	500 (35.2)	7,000 (493)	20,000 (1408)
Tensile Strength, psi (kg/cm ²)	40 (2.8)	200 (14.1)	450 (31.7)
Shear Strength, psi (kg/cm ²)	35 (2.5)	140 (9.9)	300 (21.1)
Coefficient of Thermal Expansion per °C	25 x 10 ⁻⁶	40 x 10 ⁻⁶	50 x 10 ⁻⁶
Water Absorption, % of gain in 24 hours	3	1.5	1

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