Density	2.2 pcf (35.2 kg/m³)
Maximum Loading	2.5 psi (17.5 kPa)
Color	Natural

ETHAFOAM™ packaging products

ETHAFOAM™ 4101 FR Polyethylene Foam

ETHAFOAM™ 4101 FR polyethylene foam is a strong, resilient, medium-density 2.2 pcf (35.2 kg/m³), closed-cell foam. Specifically formulated to meet commercial airline requirements, it contains flame-retardant additives designed to meet the U.S. Federal Standard FAR 25.853 (a) and Airbus Directives ABD 0031 for commercial aircraft interior compartment components. Its compression set and buoyancy characteristics make ETHAFOAM 4101 FR ideal for use in aircraft seating. To achieve optimum performance, Dow recommends that qualified packaging engineers design the total packaging solution.

Sizes Available in Natural (Planks):
2" x 24" x 108"
3" x 24" x 108"
4" x 24" x 108"

Product Features

ETHAFOAM™ 4101 FR polyethylene foam is a durable, lightweight, flexible, solid extruded product that meets the requirements for U.S. Federal Standard FAR 25.853 (a) and Airbus Directives ABD 0031. The foam also meets or exceeds the requirements in CID A-A-59136, Class 1, Grade C, Type I. As the properties listed on the reverse suggest, ETHAFOAM 4101 FR offers excellent strength, resistance to creep under load, vibration and shock absorbency, and water resistance characteristics.

ETHAFOAM 4101 FR is produced with Dow's patented *RapidRelease* manufacturing process. *RapidRelease* technology delivers a higher quality product with improved dimensional stability and safety. This process technology incorporates a patented CFC- and HCFC-free blowing agent system and an accelerated curing system that reduces residual blowing agents in ETHAFOAM products to trace amounts.

ETHAFOAM 4101 FR meets the requirements of the U.S. Clean Air Act Amendments. It is easily fabricated, impervious to most chemicals, non-abrasive and performs consistently over a wide range of temperatures.

ETHAFOAM 4101 FR is also reusable and completely recyclable because it is made of non-crosslinked polyethylene. Recycling operators may wish to segregate product with flame-retardant additives and process it separately. Flame-retardant additives in ETHAFOAM 4101 FR may increase polymer degradation in some high-temperature recycling operations.

ETHAFOAM Product Information

Physical Properties of ETHAFOAM™ 4101 FR Polyethylene Foam

Physical Properties†	Test Method	Direction	Value
Density	ASTM D3575, Suffix W, Method B; ISO 845		**pcf (kg/m³)** 2.2 (35.2)
Fire Test Response Characteristics††	US CFR Title 14, 25.853 (a) UL 94 ABD 0031 ASTM E84 (1 in.): – Flame Spread Index – Smoke Developed Index		Pass HF-2 Pass 20 300
Compression Set	ASTM D3575, Suffix B (50% compr.); EN/ISO 1856 (25% compr.)	Vertical	< 20% < 8%
Compressive Creep (1000 hrs @ 73°F [23°C])	ASTM D3575, Suffix BB	Vertical	< 10% @ 2.5 psi (17.5 kPa)
Compressive Deflection @ 10% @ 25% @ 50%	ASTM D3575, Suffix D	Average	**psi (kPa)** 8 (55) 10 (69) 20 (138)
Thermal Stability	ASTM D3575, Suffix S; ISO 2796		< 1% < 1%
Thermal Conductivity @ 75°F (24°C) @ 23°F (-5°C)	ASTM D3575, Suffix V; EN 28301; ISO 2581	Vertical	**BTU•in/hr•ft²•°F (W/m°K)** 0.42 (0.06) 0.37 (0.05)
Water Absorption	ASTM D3575, Suffix L; ISO 2896; ASTM C272		**lb/ft² (kg/m²)** 0.3 (1.5) < 2% by volume
Buoyancy	ASTM D3575, Suffix AA		**pcf (kg/m³)** 58 (930)
Tensile Strength @ peak	ASTM D3575, Suffix T; ISO 1798	Average	**psi (kPa)** 35 (241)
Tensile Elongation	ASTM D3575, Suffix T; ISO 1798	Average	60%
Tear Strength	ASTM D3575, Suffix G	Average	**lb/in (N/mm)** 10 (1.75)

†The data presented for this product are for unfabricated ETHAFOAM polyethylene foam products. While values shown are typical of the product, they should not be construed as specification limits.

††These numerical laboratory fire-test-response characteristics are not intended to reflect hazards presented by this material under actual fire conditions.

For information on products, design assistance and testing services available from Dow, contact us at: 1-866-PKG-FOAMS (754-3626) or www.ethafoam.com

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