

Sealed Air®

BRAND PROTECTIVE PACKAGING

Ethafoam® M1 FRAS

Polyethylene Foam

Ethafoam® M1 FRAS polyethylene foam is a strong, resilient, medium-density 36.8 kg/m³ (2.3 pcf), closed-cell foam. Specially formulated to meet the stringent military and blowing agent requirements (less than 10% LEL), it combines anti-static and flame-retardant properties with superior performance. ETHAFOAM M1 FR/AS is designed as a material for cushioning components in packaging applications for loadings up to 17.5 kPa (2.5 psi).



FEATURES

Ethafoam® M1 FRAS polyethylene foam is a durable, lightweight, flexible, solid extruded product. The foam meets the requirements for U.S. Federal Standard FAR 25.853 (a) and meets or exceeds the requirements in CID A-A-59136, Class 1, Grade D, Type I. As the properties listed on the reverse suggest, Ethafoam® M1 FRAS offers excellent strength, resistance to creep under load, vibration and shock absorbency, and water resistance characteristics.

Ethafoam® M1 FRAS 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.

MILITARY GRADE

Ethafoam® M1 FRAS is part of an exclusive family of Ethafoam® military packaging products that also includes Ethafoam® M1, Ethafoam® M1 AS, Ethafoam® M3, Ethafoam® M4 and Ethafoam® M5. Each of these products has been designed and formulated to consistently meet the stringent shipping, storage and handling requirements for military applications.

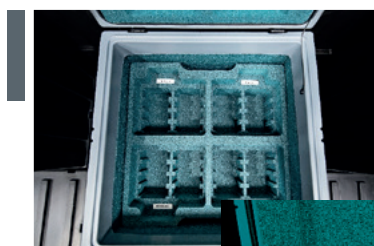
RAPIDRELEASE MANUFACTURING PROCESS

Ethafoam® M1 FRAS is produced with the 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.

BENEFITS

Ethafoam® M1 FRAS is formulated with anti-static properties to safely protect sensitive military electronics equipment during shipment and storage. Ethafoam® M1 FRAS also contains flame-retardant additives and has outstanding dimensional stability and recovery characteristics that provide optimal cushioning protection against repeated impacts. To achieve optimum performance, Sealed Air recommends that qualified packaging engineers design the total packaging solution.

Ethafoam® M1 FRAS 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® M1 FRAS may increase polymer degradation in some high-temperature recycling operations.



Ethafoam® M1 FRAS

PRODUCT SPECIFICATION SHEET

POLYETHYLENE FOAM

Physical Properties	Test Method	Direction	Unit	Value
Density	ASTM D3575-08 Suffix W ISO 845:2006		kg/m ³ pcf	36.8 2.2
Blowing Agent Content	Dow Method		% LEL	< 10
Static Decay Rate	EIA 541; US Federal Test Measured on plank surface		sec	< 2
Surface Resistance	ANSI/EOS/ESD-S11.11-1993;		ohms	< 10 ¹¹
Surface Resistivity	EIA 541; ASTM D257; Measured on plank surface		ohms/square	<1.0 x 10 ⁹ - 1.0 x 10 ³
Fire Test Response Characteristics*	US CFR Title 14, 25.853 (a)			Pass
Compression Set	ASTM D3575, Suffix B (50% compr.); EN/ISO 1856 (23 °C, 25% compr.)	Vertical	%	< 20 < 10
Compressive Creep (1000 hrs @ 23 °C [73 °F])	ASTM D3575, Suffix BB	Vertical	%	< 10 @ 17.5 kPa (2.5 psi)
Compressive Deflection @ 10% @ 25% @ 50%	ASTM D3575, Suffix D	Average	kPa (psi)	50 (7) 69 (10) 124 (18)
Thermal Stability	ASTM D3575, Suffix S; ISO 2796		%	< 2.0
Thermal Conductivity @ 24 °C (75 °F) @ -5 °C (23 °F)	ASTM D3575, Suffix V; EN 28301; ISO 2581	Vertical	W/m ² K (BTU•in/hr •ft ² •°F)	0.06 (0.42) 0.05 (0.37)
Water Absorption	ASTM D3575, Suffix L; ISO 2896; ASTM C272		kg/m ² (lb/ft ²)	1.5 (0.3) < 3% by volume
Buoyancy	ASTM D3575, Suffix AA		kg/m ³ (pcf)	930 (58)
Tensile Strength @ peak	ASTM D3575, Suffix T; ISO 1798	Average	kPa (psi)	220 (32)
Tensile Elongation	ASTM D3575, Suffix T; ISO 1798	Average	%	50
Tear Strength	ASTM D3575, Suffix G	Average	N/mm (lb/in)	1.75 (10)

NOTICE: The data presented for this product is for unfabricated polyethylene foam product. While values shown are typical of this product, they should not be construed as specification limits. Sealed Air® makes no warranties, express or implied, including without limitation, warranties of merchantability or fitness for a particular purpose, with respect to any product, information or recommendations referred to herein, and shall not be liable for any loss or damage, directly or indirectly, related to such product, information or recommendations or for consequential or incidental damages. User should test each application to determine suitability of the product for the intended use.