

Hydrophobic Melamine Foam

Product Description

ResoNix Hydrophobic Melamine foam, one of the main components of ResoNix Guardian, is an extremely lightweight material which exhibits exceptional resistance to heat and water, low flame propagation and smoke generation, and toxicity. ResoNix Hydrophobic Melamine is differentiated from traditional melamine and polyimide foams by its resistance to moisture absorption and retention, produced by a proprietary process. As with standard melamine foam, it does not drip in the presence of a flame and stops burning after the removal of any external ignition source and fuel. It is recommended for both acoustical and thermal insulation in automotive, aircraft, aerospace, marine, and architectural applications where extreme moisture resistance, low flame spread, smoke generation, and toxicity are requirements.

Typical Foam Characteristics

Density	ASTM D-3574	0.56 lbs/ft +/- 15%
Tensile Strength	ASTM D-3574	15 lbs/in ² , min
Elongation	ASTM D-3574	39 % nominal
Compression Set	ASTM D-3574	10 %, max
Indentation Force Deflection	ASTM D-3574	90 lbs/50 in ² , max
Thermal Conductivity	ASTM C-518	0.24 BTU-in/ft ² -hr-°F at 75°F
Temperature Range		-300°F to +356°F, intermittent to +400°F
Water Absorption	ASTM D2842, B	<1.5% after 15 mins <4% after 96 hrs
Water Repellency	PTI Internal	35% Average weight gain, max (note: standard melamine foam avg. weight gain is over 10,000%; polyimide foam avg. weight gain is over 400%)

Flammability Ratings	Description	Rating
UL 94 HF-1	Horizontal Burning	Pass
UL 94 V-0	Vertical Burning	Listed
FAR 25.853 (a, i)	60 Sec Vertical	Pass
FAR 25.856, BSS7365, AITM 2.0053	Radiant Panel	Pass
ASTM 662-83, BSS7238	Smoke Generation	Flaming: Ds (1.5 min) = 57 Ds (4.0 min) = 77
BSS7239	Toxicity	Pass
ASTM E 84	Steiner Tunnel, linch thick	Flame Spread < 25 Smoke Developed < 50
ASTM E 162-83	Surface Flammability	Flame Spread factor 1.83 Heat Evolution factor 2.50 Flame Spread index 4.62
DIN 5510	Flammability	S4
	Smoke	SR2
	Drips	ST2

Miscellaneous Foam Characteristics	Description	Rating
Fungus Resistance	ASTM G-21	Passes with Trace Growth Rating
Microbial Growth	UL 181	Pass
Air Erosion	UL 181	4,000 CFM Rating

Acoustical Properties

Per ASTM E1050, randomized acoustical absorption coefficient at various thickness and frequencies.

Foam thickness (in.)	Frequency (Hz)					
	125	250	500	1K	2K	4K
0.25	4	5	10	20	39	81
0.50	11	12	25	42	77	94
1.0	18	23	50	82	99	99
2.0	31	60	75	90	100	100
3.0	42	67	81	96	100	100
4.0	53	80	90	99	100	100

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