



MATERIAL SPECIFICATIONS FOR:
 POLYDAMP® Melamine Foam
 w/Optional film facings and PSA
 (PMF-XXX-YY)

PMF-100-RAF

*Melamine foam with reinforced aluminum facing
 (Testing was performed on the polyurethane facing)*

Description:

POLYDAMP® Melamine Foam (PMF) is an extremely light weight material which exhibits exceptional resistance to heat, low flame propagation and smoke. It does not drip in the presence of a flame and stops burning after removal of any external ignition source and fuel. It is recommended for both acoustical and thermal insulation in aircraft, aerospace, industrial, marine or architectural applications where high heat resistance, low flame spread and smoke are requirements

PMF is available with film facings and adhesive backings.

Typical Foam Characteristics:

| | | |
|---------------------------------|--------------------|---|
| Density: | ASTM D-3574-86 | 0.59 lb/ft ³ , ±15% |
| Tensile Strength: | ASTM D-3574-86 | 17.4 lb/in ² min. |
| Tear Strength: | ASTM D-3574-86 | 3.8 lb/in ² min. |
| Elongation: | ASTM D-3574-86 | 10% min. |
| Compression Set : | ASTM D-3574-86 | @50% = 6.2%, @75% = 8.5% |
| Thermal Conductivity: | ASTM C-177 & C-518 | 0.25 BTU in./hr ft ² °F @ 68°F |
| Continuous Temperature Range: | | -300°F TO 300°F |
| Intermittent Temperature Range: | | 375°F |

Flammability Ratings:

| <u>Standard</u> | <u>Test</u> | <u>Rating</u> |
|--|---|--|
| UL 94 HF-1 | Horizontal Burning | LISTED |
| UL 94 V-0 | Vertical Burning | LISTED |
| UL 94-5 V | Vertical Burning | PASS |
| FAR 25.853 (a), App F, Part1, (a)(1)(i) | Vertical Burn Test | PASS |
| FAR 25.856 (BSS7365) | Radiant Panel Test | After Flame: 0 Seconds Flame Propagation: 0 Seconds |
| ASTM E 662 | Specific Optical Density of smoke generated by Solid material | Flaming: Ds (1.5 min) = 64 Ds (4.0 min) = 88 Non-Flaming: Ds (1.5 min) = 23 Ds (4.0 min) = 38 |
| ASTM E 84 | Steiner Tunnel, 1 inch thick | Flame Spread 5 Smoke Developed 35 |

| | | |
|--------------------|--|---|
| ASTM E 162 | Surface Flammability of Materials using a radiant Heat Energy Source | Flame Spread factor 2.25 Heat Evolution factor 2.17 Flame Spread index 4.62 |
| BSS7239 | Toxicity Requirements for Smoke Gases | PASS |
| BS 476, part 6 & 7 | Flame and Smoke Propagation | Class 0 |

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(PMF-XXX-YY)

Facings:

Color: BU = Black Urethane, NU = Bone Urethane, GUF/BUF = Gray or Black Urethane with fire retardants.

Thickness: 3 and 3.5 mils

Description: Polyurethane film is a tough abrasion resistant film surface that resists punctures and tears. Polyurethane film also exhibits good resistance to chemicals and moisture. The standard colors are black and gray, however, other colors are available.

Other Films available are: Metalized Polyester 0.001", Tedlar,®0.001", Nomex-0.002", and Alum. Foil 0.002", PEN 0.001", Kapton 0.001", Reinforced Aluminum Foil 0.003"

Acoustical Properties:

Without/With 0.001" polyurethane film facing:

| Foam Thickness: | <u>125</u> | <u>250</u> | <u>500</u> | <u>1K</u> | <u>2K</u> | <u>4K</u> | <u>N.R.C.*</u> |
|------------------------|-------------------|-------------------|-------------------|------------------|------------------|------------------|-----------------------|
| 0.25 in. | 4/10 | 5/16 | 10/18 | 20/50 | 39/50 | 81/77 | 20/35 |
| 0.50 in. | 11/16 | 12/21 | 25/40 | 42/78 | 77/80 | 94/78 | 40/55 |
| 1.0 in. | 18/23 | 23/38 | 50/64 | 82/98 | 96/82 | 99/80 | 65/70 |
| 2.0 in. | 31/40 | 60/80 | 75/91 | 90/100 | 100/100 | 100/98 | 80/95 |
| 3.0 in. | 42/45 | 67/86 | 81/98 | 96/100 | 100/100 | 100/100 | 85/95 |
| 4.0 in. | 53/50 | 80/92 | 90/100 | 99/100 | 100/100 | 100/100 | 90/100 |

Adhesive Backings:

Type: Acrylic

Temperature Range: -65°F to 425°F

Shelf Life: One (1) year when stored in a cool dry place between 60°F & 80°F, and 30% to 50% relative humidity

*N.R.C. = Arithmetic average of values @ 250,500,1000,2000 Hz, rounded to the nearest 5.