FM® 404NA ADHESIVE FOAM

TECHNICAL DATA SHEET

DESCRIPTION

FM® 404NA adhesive foam is a non-asbestos, modified epoxy adhesive foam. FM 404 is supplied in sheet form and may be cured in place by either a free-foaming or restrained foaming process.

FEATURES & BENEFITS

- Specifically designed for applications involving exposure to temperatures up to 420°F (215°C)

SUGGESTED APPLICATIONS

- Splicing honeycomb core under zero contact pressure
- Bonding of inserts or edge members to core

CHARACTERISTICS

Table 1 | Product Description

Weight	0.20 lb/ft^2 (0.98 kg/m^2)
Color	Gray
Volatile	2% maximum
Expansion	4 – 5 times the initial thickness
Density	12 – 25 lb/ft^3 (0.19 – 0.40 g/cm^3)
Shelf Life	6 months from date of shipment at recommended storage temperature
Recommended Storage	Store at or below 0°F (-18°C)
Shop Life	5 days at or below 90°F (32°C)

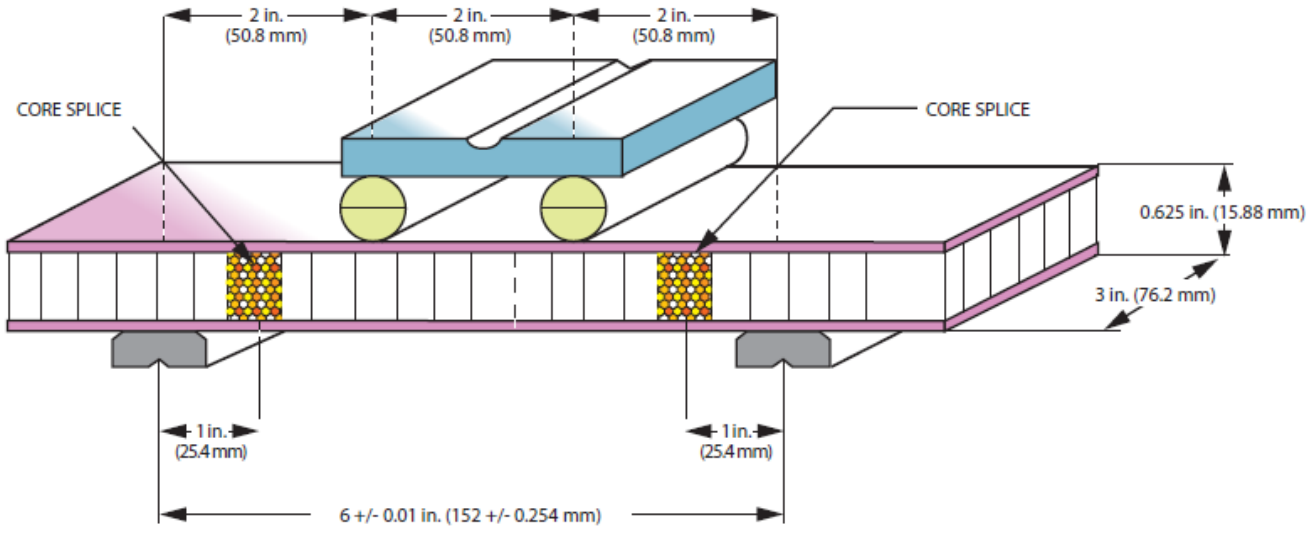
Table 2 | Physical Data

	Batch B-101			Batch B-102			Batch B-103		
Expansion	4.4	4.3	4.4	4.4	4.4	4.5	4.4	4.5	4.5
Density (pcf)	14.9	15.3	15.4	15.7	15.3	15.5	14.9	15.2	15.4
Percent Volatile	0.89	0.91	0.93	0.92	0.96	0.88	0.92	0.93	0.91

PROPERTIES

Table 3 | Typical Mechanical Properties: Beam Shear Strength (refer to Figure 1)

Conditioning	None			18 hours at 365°F (185°C)			3 hours at 420°F (216°C)		
Test Temperature	Tested at 75°F (24°C)			Tested at 365°F (185°C)			Tested at 420°F (216°C)		
Batch	B-101	B-102	B-103	B-101	B-102	B-103	B-101	B-102	B-103
Beam Shear Strength, psi	639	653	647	484	437	430	289	240	274
	637	635	618	449	468	456	225	282	248
	622	678	654	473	480	458	260	250	242
	670	660	662	489	476	438	258	248	283
	666	631	632	471	448	476	238	258	265
Average	647	651	643	473	462	452	260	256	262
Min. Ind.	622	631	618	449	437	430	238	240	242
Std. Dev.	20	19	18	15	19	18	18	16	17



Notes:

1. End support plates are 1.0 x 3.0 x 0.25 in. (25.4 x 76.2 x 6.35 mm) with grooves for alignment, edges rounded to 0.06 in. (1.52 mm)
2. Load bars are 0.5 in. (12.7 mm) round
3. Core: 1/4" .004" N-5052 (25.4mm 0.10mm N-5052)
4. Faces: 0.063 in. (1.63 mm) 2024 T-3 Alclad
5. Skin to Core Adhesive: FM 400 NA adhesive film, 0.10 lb/ft^2 (0.49 kg/m^2) with BR® 400 primer

Figure 1 | Method of Loading for Sandwich Beam Shear Testes and FM 404NA Adhesive Foam

APPLICATION NOTES

Bonding Procedure

Remove protective paper separator, position the FM 404NA adhesive foam and complete panel assembly.

FM 404NA adhesive foam should be cured according to the following cycle:

- 60 minutes ramp to 340°F (171°C)
- 60 minute hold at 340 ± 10°F (171 ± 6°C)
- 15 to 50 psi (0.10 to 0.34 MPa) pressure

PRODUCT HANDLING AND SAFETY

Cytec Engineered Materials recommends wearing clean, impervious gloves when working with adhesives to reduce skin contact and to avoid contamination of the product.

Materials Safety Data Sheets (MSDS) and product labels are available upon request and can be obtained from any Cytec Engineered Materials Office.

DISPOSAL OF SCRAP MATERIAL

Disposal of scrap material should be in accordance with local, state, and federal regulations.

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