

BR® 624

BR® 624 potting compound is a one-part, low density material formulated for use in insert or edge filling of honeycomb sandwich construction. It is a thermosetting, modified epoxy system, serviceable over a temperature range of -70 – 350°F (-57 – 177°C).

BR® 624 potting compound is thixotropic and cure cycles may be varied over a broad range. Cure temperatures as low as 225°F (107°C) and as high as 350°F (177°C) have been used successfully. Multiple cure cycles at temperatures up to 350°F (177°C) will not impair its use as a structural material.

Features and Benefits

- Structural properties from -67°F to 400°F (-55°C to 204°C)
- Compatibility with most 350°F (177°C) service temperature adhesives
- Protects prepared surfaces from further oxidation
- Improves hydrolytic stability at the adhesive-to-metal interface

SUGGESTED APPLICATIONS

- Insert and edge filling of honeycomb structures

CHARACTERISTICS

Table 1 | Product Description

Form	Thixotropic paste
Color	Dark maroon
Specific gravity	Approximately 0.65
Shelf Life	6 months from date of shipment when stored at or below 0°F (-18°C)
Shop Life	30 days below 75°F (24°C)
Density range (cured)	37 – 47 lb/ft ³ (0.592 – 0.752 g/cc)



PROPERTIES
Table 2 | Typical Strength Properties of BR 624 Potting Compound

Density lb/ft ³ (g/cm ³)	Compression Strength at 0.2% offset psi (MPa)	Testing Temperature °F (°C)
43.12 (0.69)	10.463 (73.16)	75 (24)
47.00 (0.75)	10.800 (74.48)	75 (24)
45.65 (0.73)	9.850 (67.93)	75 (24)
42.27 (0.68)	5.428 (37.43)	180 (82)
46.31 (0.74)	3.800 (26.21)	180 (82)
46.80 (0.75)	4.435 (30.59)	180 (82)

Material: Core: 8.1, 1/8, 0.002, 5052N, 1 inch thick (3.175 mm, 0.050 mm, 5052N, 25.4 mm thick)

Cure Cycle: BR 624 potting compound troweled into core taking care not to entrap air bubbles
Press rate to 250°F (121°C), 60 minutes at 250°F (121°C)
Restrained under 40 psi (0.28 MPa)

Specimen: Machined to 1.5 inches (38.10 mm) diameter

Table 3 | Core Shear as a Function of Splicing Core with BR 624 Potting Compound

Splice Material	Variable	Room Temp. Flexure Load-Ib (Load-N)	Type Failure
None	Control	3050 (13.567) 3020 (13.434)	Core shear Core shear
BR 624 potting compound	Core spliced	3030 (13.480) 2940 (13.078)	Core shear Core shear

Material: Faces: 0.64 inch (1.63 mm) 2024-T3 alclad
Core: 7.9, 1/4, 0.004, 5052N, 1/2 inch thick (6.25 mm, 0.102 mm, 5052N, 12.7 mm thick)
Panels bonded with FM® 123-2 adhesive film, 0.085 psf (0.42 kg/m²)

Cure Cycle: 60 minutes to 225°F (107°C), 90 minutes at 225°F (107°C), 40 psi (0.28 MPa)

Table 4 | Compressive Strength vs. Heat Aging at 350°F (177°C)

Test Temperature	Control psi (MPa)	1000 Hours psi (MPa)	2000 Hours psi (MPa)
75°F (24°C)	10970 (75.66)	8800 (60.69)	9155 (63.14)
350 °F (177°C)	1755 (12.11)	1900 (13.10)	2230 (15.38)

Material: Specimens machined to 1.5 inches (38.10 mm) diameter
Core: 8.1, 1/8, 0.002, 5052N, 1 inch thick (3.175 mm, 0.050 mm, 5052N, 25.4 mm thick)

Cure Cycle: Press rate to 250°F (121°C), 60 minutes at 250°F (121°C), restrained under 40 psi (0.28 MPa)



APPLICATION NOTES

Curing Procedure

BR 624 potting compound may be applied with caulking guns or spatula-like tools. Warming to temperatures up to 110°F (43°C) will facilitate filling of honeycomb cells.

The recommended cure cycle is 30 to 60 minutes heat-up to 250°F (121°C), 60 minutes hold at $250 \pm 5^\circ\text{F}$ ($121 \pm 2.8^\circ\text{C}$). If slight expansion is objectionable, restraint during cure is suggested. After cure, BR 624 can be sanded and machined as required.

PRODUCT HANDLING AND SAFETY

Syensqo recommends wearing clean, impervious gloves when working with potting compounds to reduce skin contact and to avoid contamination of the product.

DISPOSAL OF SCRAP MATERIAL

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

HEALTH & SAFETY

Please refer to the product SDS for safe handling, personal protective equipment recommendations and disposal considerations.

