TECHNICAL DATASHEET

DAPCO® 38-3 High Temperature Casting Compound

Description:

DAPCO® 38-3 is a two-component, pourable, silicone casting compound.

Applications:

DAPCO® 38-3 is most commonly used in composite manufacturing for trapped rubber molding. Trapped rubber molding is a cost efficient method for manufacturing composite parts. No expensive autoclave or vacuum bagging techniques are required. Tooling can be simplified to a mold, heat source, and DAPCO® 38-3 silicone rubber.

The silicone rubber expands at a predictable rate during the cure cycle of the composite part. Molding pressure is generated by constraining the expansion within an outer mold. The molding pressures generated by DAPCO® 38-3 can be controlled from as little as 10 psi to over 2,000 psi.

For specific mold design and pressures, request "A Guide to Trapped Rubber Molding" from your D Aircraft representative.

DAPCO® 38-3 is also used as a caul or pressure intensifier to generate pressure in sharp radii and/ or complex detail areas of a composite part..

For more information, contact:
D Aircraft Products
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Anaheim, California 92807
714 632-8444

Features and benefits:

- **The ability to generate pressure at elevated temperature to densify laminates**
- **Low linear shrinkage (0.5%)**
- **High tear strength**
- **Continuous cycling to 400°F**
- **No VOCs - 100% solids**

This information is provided for informational purposes only and without legal responsibility.
Users are expected to perform adequate verification and testing to ensure that materials meet required specifications.

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Typical properties

	Part A	Part B	Mixed
Color	Yellow	Blue	Green/Yel
Solids, %	100	100	100
Appearance	Liquid	Liquid	Liquid
Density lbm/gal	7.5	9.0	7.5
Viscosity (cps @72°F)	250,000	5500	250,000

Processing

Mix Ratio

The recommended mix ratio for DAPCO® 38-3:

	Weight	Volume
Part A	100	100
Part B	6	5

DAPCO® 38-3 must be thoroughly blended to a uniform mixture in order to achieve optimum performance properties. After mixing, it is necessary to de-air DAPCO® 38-3 to remove air introduced into the material during mixing. Only 5 minutes is required after initial collapse of the material.

The mold should be prepared by using a thin, uniform coating of DAPCO® 10080, a water/soap base release. DO NOT USE ANY OTHER RELEASE AGENTS WITHOUT CONSULTING A D AIRCRAFT REPRESENTATIVE! Pour DAPCO® 38-3 into the mold in a way that reduces introduction of air (tip mold at an angle).

Working life

The pot life of DAPCO® 38-3 after mixing is 3 to 6 hours.

Curing

All cure and post cure intervals are based on castings up to 1.0" thickness. For larger castings, extend all cure and post cure times.

- Cure DAPCO® 38-3 at room temperature (70°F) for a minimum of 24 hours.
- Cure at 120°F for 4 hours.
- Remove casting from mold. FAILURE TO REMOVE CASTING AT THIS TIME COULD RESULT IN CASTING BONDING TO MOLD.
- Cure at 350°F for 4 hours.
- Post cure at 400°F for 4 hours. Casting is now suitable for continuous service at 375°F.

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Surface Preparation

The mold must be free from contaminates, i.e., dirt, oil, grease, etc. Clean the surface with a suitable solvent/cleaning agent and dry thoroughly.

For casting

Use DAPCO® 10080 mold release. Apply a thin, uniform coat by wiping, brushing, or spraying. Allow to dry thoroughly.

For bonding

Use DAPCO® 1-100 primer. Apply a thin, uniform coat. Allow to cure for a minimum of 45 minutes. Once cured, you have 90 minutes to pour DAPCO®38-3 onto the cured surface.

Typical cured properties

Hardness (shore A) ASTM D224	60
Tensile strength (psi) ASTM D412	500
Elongation (%) ASTM D412	75
Tear strength (pli) ASTM D624	60
Linear C.T.E. (in/in/°F) ASTM D2214	1.01×10^{-4}
Bulk modulus (psi)	3.33×10^{4}
Service temperature (°F)*	-65 to 400

*DAPCO® 38-3 requires a post cure of 4 hours @ 425°F to achieve this service temperature.

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Storage and handling

Store in a cool, dry place.

Keep containers tightly sealed.

Safety

Exercise good housekeeping practices. Material Safety Data Sheets available upon request.

Important notice

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