

DAPCO® 60 High Temperature (550°) Casting Compound

Description:

DAPCO® 60 is a two-component, pourable, silicone casting compound.

Applications:

DAPCO® 60 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® 60 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® 60 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® 60 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:

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Features and benefits:

- Tooling for thermoset
- Stability to 550°F
- The ability to generate pressure at elevated temperature to densify laminates
- Low linear shrinkage (0.5%)
- High tear strength
- No VOCs - 100% solids

Typical properties

	Part A	Part B	Mixed
Color	Salmon pink	Blue	Salmon pink
Solids, %	100	100	100
Appearance	Liquid	Liquid	Liquid
Density lbm/gal	17	9	17
Viscosity (cps @72°F) 350,000	5500	350,000	

Processing**Mix ratio**

The recommended mix ratio for DAPCO® 60 is:

	Weight	Volume
Part A	100	100
Part B	4	7.5

DAPCO® 60 must be thoroughly blended to a uniform mixture in order to achieve optimum performance properties. After mixing, it is necessary to de-air DAPCO®60 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® 60 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® 60 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 575°F for 2 hours. Casting is now suitable for continuous service at 550°F.

Surface Preparation

The mold must be free from contaminants, 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® 60 onto the cured surface.

Typical cured properties

Hardness (shore A) ASTM D224	80
Tensile strength (psi) ASTM D412	750
Elongation (%) ASTM D412	75
Tear strength (pli) ASTM D624	40
Linear C.T.E. (in/in/°F) ASTM D2214	1.25×10^{-4}
Bulk modulus (psi)	4.13×10^4
Service temperature (°F)*	-65 to 550

*DAPCO® 60 requires a post cure of 2 hours @ 575°F to achieve this service temperature.

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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