

HIGHTEMP 5449

HIGHTEMP 5449 is a mineral-filled epoxy molding compound suitable for transfer molding of components requiring good electrical and mechanical properties at high temperatures.

This material has good flow properties at relatively low molding pressures, (25-75 psi) permitting molding and encapsulating of delicate components.

HIGHTEMP 5449 contains no internal mold release, so that it has excellent adhesion and may adhere to metal surfaces. For this reason, molds should be thoroughly cleaned and coated with a good mold release before use.

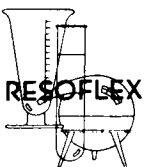
HIGHTEMP 5449 can be stored at room temperature for at least six months without appreciable change in properties.

HIGHTEMP 5449 is available in various softening points. The lower the softening point, the lower the viscosity and the longer the molding cycle.

All grades are available in various colors, in approximately 25 gram pellets or in powder form.

WORKING PROPERTIES

Lowest available initial viscosity	300 cps at 150°C. (302°F.)
Exotherm	5°C. above cure temperature
Molding Pressures	25 - 75 psi
Molding Time	15 - 30 minutes
Molding Temperatures	150°C.-200°C. (302°F.-392°F.)
Typical Post Cure Cycle	6 Hours at 177°C. (350°F.)



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PHYSICAL PROPERTIES

Heat Distortion		180°C. (365°F.)
Coefficient of Expansion		
inches per inch per °F. x 10 ⁻⁶		
+80°F. to 200°F.		16
-65°F. to 80°F.		13
-65°F. to 200°F.		14
Heat Aging Weight Loss		
150°C. - 250 Hours		0.11%
Specific Gravity		1.65
Tensile Strength - psi	ASTM D-638-49T	13,000
Flexural Strength - psi	ASTM D-790-49T	18,500
Izod Impact Strength - ft.lb./in.notch	ASTM D-256-47T	0.5
Water Absorption/24 Hours	ASTM D-570-42	0.19%
Vapor Transmission - gm/ft ² /24 hr./in.	ASTM D-697-42T	0.021
Shrinkage on Cure		1%
Young's Modulus of Elasticity		
-65°F		1.07 x 10 ⁶
RT		1.02 x 10 ⁶
212°F		0.66 x 10 ⁶
Compression Creep and Deformation		
1000 lbs. in 24 hours at 77°F		0.26%
100 lbs. in 24 hours at 212°F.		0.40%
Machineability		Good

THERMAL PROPERTIES

Thermal Conductivity (Fitch Method)		
cal/sec/cm ² /°C.-cm		7.0 x 10 ⁻⁴
Thermal Shock Resistance - (-65°C to + 175°C.)		passes 10 cycles
Heat Stability -		Negligible change in electrical properties after 2000 hrs. at 200°C.

ELECTRICAL PROPERTIES

Dielectric Strength (Short time 1/8" Section) Volts/mil		510
Volume Resistivity-ohms-cm		5.1 x 10 ¹²
Dielectric Constant		
@ 60 Cycles		4.6
@ 1000 Cycles		4.5
Power Factor		
@ 60 Cycles		0.006
@ 1000 Cycles		0.007

The information included in this publication is believed to be correct. No warranty of the performance of the material is given, however, since conditions of commercial usage are beyond our control.