



SYMPOXY™ 1960G

HEAT CURED EPOXY POWDER

PRODUCT DESCRIPTION	RECOMMENDED USES
<p>SYMPOXY™ 1960G is a single component epoxy system that is pigmented grey and has the following characteristics:</p> <ul style="list-style-type: none"> • Flame Retardant to 94V-0 • Thermal Shock Resistant • Excellent Moisture Resistance • Lightweight 	<p>SYMPOXY™ 1960G is typically used for potting electrical components. It is ideal in applications where exothermic or curing temperatures above 85°C cannot be tolerated and where thermal expansion/contraction should not harm delicate components.</p>

PRODUCT CHARACTERISTICS	PERFORMANCE CHARACTERISTICS
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HANDLING PROPERTIES	TEST METHOD	A/B MIXED	PHYSICAL PROPERTIES	TEST METHOD	POST CURED PROPERTIES*
Mix Ratio by volume A:B	Calculation	N/A	Moisture Resistance 168 hrs. @ 25°C	ASTM D-870	.03
by weight A:B		N/A	Compressive Strength (ksi)	ASTM D-695	1.2
Cure Schedule See curing paragraph pg.2	ASTM D-7750	4 hrs. @ 85°C 2 hrs. @ 125°C 1 hr. @ 150°C	Weight Loss (%) 168 hrs. @ 150°C	ASTM D-2756	-0.5
Demold Time @ 90°C	HAPCO TEST	4-16 hrs.	Thermal Shock Resistance	ASTM D-256	Pass
Color	Visual	Grey	FR Rating	94-V	V-0
Viscosity	ASTM D-4878	Fine Powder	Dielectric Strength (volts/mil.)	ASTM D-149	480
Specific Gravity	ASTM D-4669	.35-.40	Dielectric Constant - to 10 ⁶ cps	ASTM D-150	3.0
Shore Hardness	ASTM D-2240	N/A	Volume Resistivity (ohm-cm) 50 volts @ 25°C	ASTM D-270	8.3 x 10 ¹⁰
			Dissipation Factor - to 10 ⁶ cps	ASTM D-150	.02
			Thermal Conductivity (BTU/hr/sq ft/°F/in)	E-1225	1.6

*Note: These results are based on test specimens cured 4 hours at 185°F(85°C), 2 hours at 260°F(125°C), and 1 hour at 300°F(150°C), The above technical data is true and accurate at the date of issuance but is subject to change without prior notice.

Important: The information presented here is based on carefully conducted laboratory tests and is believed to be accurate. However, results cannot be guaranteed and it is suggested that customers confirm results under their conditions and in their applications before production use. Hapco Inc. makes no warranty, whether expressed or implied, including warranties of merchantability or of fitness for a particular purpose. Under no circumstances shall Hapco Inc. be liable for incidental, consequential, or other damages from alleged negligence, breach of warranty, strict liability, tort contract, or any other legal theory, arising out of the use of handling of this product. The sole remedy of purchaser and sole liability of Hapco Inc. shall be for the purchase price of the product which is the subject of the claim.





MATERIAL HANDLING & SAFETY NOTES

SURFACE PREPARATION

TO PREVENT ADHESION:

To prevent adhesion to the mold, use a **GREASE-IT™** release agent. Porous surfaces, such as wood, plaster, foam, etc., must be sealed thoroughly before release is applied. Use multiple coats of a good quality coating, such as a high grade oil-based or urethane lacquer.

TO PROMOTE ADHESION:

The surface must be abraded, cleaned with a solvent and dried. Sandblasting and mechanical roughing are the preferred ways of abrading surfaces to be bonded. For added adhesion to metals, use **Primer 200**. For added adhesion to plastic, use **Primer 810**. Make sure all surfaces are clean, dry, and free from moisture.

SHRINKAGE

The values in the brochures are for comparative reference only, using ASTM testing procedures. Shrinkage or dimensional variation is largely influenced by mass (total volume and thickness), temperature (material and mold), and mold material. Geometry, part thickness, and total volume vary in each design, therefore, the customer is responsible to test and determine the shrinkage factor to be used.

RE-SEALING

Many polymers are moisture sensitive and should be resealed using one of the following methods:

1. Blanket with a dry gas like nitrogen or argon.
2. Use a hair dryer pointed into the opening of the container for 30 seconds.

SHELF LIFE

Three months @ 77°F(25°C) and six months @ 32°F(0°C) from the date of invoice for that product shipment. Hapco's shelf life only pertains to containers that are unopened and in their original condition. Once the container is opened Hapco has no control or responsibility for the shelf life.

DIRECTIONS

Take bag from container and tumble in gloved hands or stir with metal spatula to ensure color is consistent. Pour powder into unit to be potted and tap or shake to assure penetration of tight componentry. Once the unit is filled, the top can be leveled with a metal spatula and the unit can be placed in an oven for curing.

CURING

Symposy 1960G should be cured at 85-90°C for a minimum of 4-16 hours, depending on the mass being cured. If operating temperature or thermal shock requirements exceed 90°C, postcure for 1 hour at 150-160°C. Curing at lower temperatures minimizes shrinkage.

STORAGE

Store the powder below 77°F(25°C). Store in a dry place off of cement floors and on shelving if possible. Container should be kept tightly closed and free of moisture.

PRECAUTIONS

CAUTION: The [Safety Data Sheets](#) should be read thoroughly before using this product.

Skin or eye contact with epoxy powders should be avoided. The use of gloves, eye protection, and face masks are strongly recommended. All polymers, as a general practice, should be used in well-ventilated areas. Spot ventilation is most effective. Contaminated clothing should be removed immediately and the skin washed with soap and water or waterless skin cleaner. Should accidental eye contact occur, wash thoroughly with water and consult a physician.

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