

Circalok™ 6403 A BLK/B Urethane Encapsulant

Description

LORD Circalok™ 6403 A BLK/B urethane encapsulant is a general purpose, two-component urethane designed for applications requiring a fast cure, mechanical shock-resistant system. Circalok 6403 A BLK/B urethane encapsulant does not contain MOCA or TDI.

Features and Benefits

Low Viscosity – maintains low viscosity for complete and void-free encapsulation.

Environmentally Resistant – provides excellent protection and resistance to moisture; exhibits excellent hydrolytic stability.

Electrically Insulative – provides excellent electrical insulation properties.

Broad Temperature Range – can be used on parts and devices that experience operating temperatures from -50°C to +120°C.

Application

Surface Preparation – Surfaces should be clean and dry for optimum performance.

Mixing – Thoroughly mix each component prior to combining resin and hardener. Mix Circalok 6403 A BLK resin with Circalok 6403 B hardener at a 22:10 ratio, by weight. Automatic meter/mix/dispense equipment may be used for high volume production.

Unless a closed-chamber mechanical mixer is used, air may be introduced into the encapsulant system during mixing. Evacuate air from encapsulant prior to application.

Applying – Pour encapsulant directly from mixing container on to application, or apply using automatic meter/mix/dispense equipment.

Curing – Allow encapsulant to cure for 30-45 minutes at 25°C, or for 5-10 minutes at 100°C. Complete cure will be achieved in 2-3 days at 25°C.

This time-at-temperature profile refers to the time the material should be allowed to cure once it reaches the target temperature. Allowance should be made for oven ramp rates, parts with large thermal mass and other circumstances that may delay material reaching the target temperature.

Cleanup – Use dry rag wipe to clean up equipment and spills while encapsulant is still wet.

Typical Properties*

	6403 A BLK Resin	6403 B Hardener	Mixed
Appearance	Black Liquid	Amber Liquid	Black Liquid
Viscosity, cps @ 27°C	750	1200	900
Specific Gravity	0.96	1.19	1.04
Gel Time, min	–	–	5-10

*Data is typical and not to be used for specification purposes.

LORD TECHNICAL DATA

Typical Cured Properties*

Volume Resistivity, ohm-cm @ 25°C ASTM D 257	1 x 10 ¹⁴
Hardness Shore A	80
Tensile Strength, psi	1935
Dielectric Strength, V/mil	600
Dielectric Constant @ 25°C 1 kHz	3.6
Dissipation Factor @ 25°C 1 kHz	0.14

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Shelf Life/Storage

Shelf life of each component is six months from date of manufacture when stored at 25-40°C in original, unopened container.

If stored or shipped at cooler temperatures, Circalok 6403 B hardener may crystallize. If crystals appear, gently warm hardener at 50-60°C to melt crystals before mixing with resin.

Cautionary Information

Before using this or any LORD product, refer to the Safety Data Sheet (SDS) and label for safe use and handling instructions.

For industrial/commercial use only. Must be applied by trained personnel only. Not to be used in household applications. Not for consumer use.

Values stated in this technical data sheet represent typical values as not all tests are run on each lot of material produced. For formalized product specifications for specific product end uses, contact the Customer Support Center.

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