

CoolTherm™ UR-388 FHV Flame Retardant Urethane Encapsulant

Description

LORD CoolTherm™ UR-388 FHV encapsulant is a two-component urethane system designed for encapsulating and casting applications. CoolTherm UR-388 FHV encapsulant cures at room temperature to produce a flame retardant, semi-flexible material.

Features and Benefits

Rapid Room Temperature Cure – provides initial cure in 20 minutes at room temperature.

Environmentally Resistant – provides excellent thermal shock resistance.

Low Outgassing – exhibits low outgassing properties in high vacuum environments.

Broad Temperature Range – can be used on parts and devices that experience operating temperatures from -55°C to +130°C.

Application

Mixing – Thoroughly stir each component prior to mixing together. Mix CoolTherm UR-388 FHV resin with CoolTherm UR-388 FHV hardener at a 100:25 ratio, by volume. Automatic meter/mix/dispense equipment may be used for high volume production. Static mix tips should have at least 24 elements to ensure proper mixing.

Applying – Apply encapsulant using handheld cartridges or automatic meter/mix/dispense equipment.

Curing – Encapsulant will initially cure in 20 minutes at 25°C. Full cure in 24 hours at 25°C.

Typical Properties*

	UR-388 FHV Resin	UR-388 FHV Hardener	Mixed
Appearance	Black Liquid	Tan Liquid	Black Liquid
Viscosity, cps @ 25°C	15,000	3000	15,000
Specific Gravity	1.53	1.39	1.50
Gel Time, min @ 25°C	–	–	20

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

LORD TECHNICAL DATA

Typical Cured Properties*

Thermal Conductivity, W/mk	0.7
Glass Transition Temperature, °C by DMA	15
Hardness Shore A, ASTM D 2240	80

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Shelf Life/Storage

Shelf life of each component is six months from date of manufacture when stored at 25°C in original, unopened container. CoolTherm UR-388 FHV resin and hardener containers must be periodically inverted to prevent settling.

After opening, protect each component from excessive moisture by using dry nitrogen as an inert cover.

If stored or shipped at cooler temperatures, CoolTherm UR-388 FHV hardener may crystallize. If crystals appear, gently warm hardener at 30-50°C to melt crystals before mixing with resin. Limit heating period to less than three hours as excessive heating will cause dimerization.

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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