*Moldmaking*

March 2012

# BLUESIL™ V-249





## Addition Cure Silicone Elastomer

### Description

**BLUESIL™ V-249** is a two component, addition cure, heat curing silicone rubber compound. It is designed specifically for use as converter and embossing rolls. The long work life, high Shore A (67) hardness, and high strength properties make it an excellent choice for many types of roll applications. Additives such as silicone diluent and color pigments may be added to obtain special features for specific applications. **BLUESIL™ V-249** may be meter mixed and dispensed, or hand poured.

### Applications

- Converter and embossing rolls
- Hot melt glue rolls
- Heat activated adhesive label roll

### Typical Properties

**TYPICAL PROPERTIES - AS SUPPLIED**

Part A - Base Component

| | |
|---|---|
| • ***Color*** | Beige |
| • ***Consistency*** | Pourable |
| • ***Viscosity***, cP. (mPa.s) | 150,000 |
| • ***Specific Gravity*** | 1.28 |

Part B – Curing Agent

| | |
|---|---|
| • ***Color*** | Clear |
| • ***Specific Gravity*** | 1.01 |

**TYPICAL CATALYZED PROPERTIES**

Mixed at 24°C (75°F) and 50% R.H.

| | |
|---|---|
| • ***Mix Ratio***, A:B (Parts by weight) | 10:1 |
| • ***Viscosity***, cP. (mPa.s) | 100,000 |
| • ***Pot Life***, Hrs. (1) | 5 |

**TYPICAL PROPERTIES OF CURED RUBBER,** Cured 2 hours at 150°C (300°F)

| *Property* | *Test Method* | *Value* |
|---|---|---|
| • ***Color*** | | Beige |
| • ***Specific Gravity*** | | 1.24 |
| • ***Hardness*** (Shore A) | ASTM D2240 | 67 |
| • ***Tensile Strength***, psi ($N/mm^2$) | ASTM D412 | 950 (6.6) |
| • ***Elongation*** (%); | ASTM D412 | 200 |
| • ***Coverage***, cu.in./lb (cc/kg) | | 22.3 (806) |
| • ***Temperature Range*** °C (°F) | | -54 to 204 (-65 to 400) |

**CURE SCHEDULE FOR ROLLS**

Cure rolls for 3-4 hours at 150°C (300°F) to obtain a Shore A Hardness of 68-72. Allow extra soak time for heat transfer through casing and core of roll.

Please note: The typical properties listed in this bulletin are not intended for use in preparing specifications for any particular application of BLUESIL™ silicone materials. Please contact our Technical Service Department for assistance in writing specifications.
Time at which material gels.

### Storage and shelf life

**BLUESIL™ V-249** when stored in its original unopened packaging, at a temperature of 24°C (75°F), may be stored for 24 months from the date of manufacture. Beyond this date, Bluestar Silicones no longer guarantees that the product meets the sales specifications.

### Safety

Please read the container labels for **BLUESIL™ V-249** or consult the Material Safety Data Sheet (MSDS) before handling for safe use, physical and health hazard information. The curing agent for this material can generate a flammable gas upon contact with acidic, basic, or oxidizing materials. The MSDS is not included with the product packaging, but can be obtained by contacting Bluestar Silicones at 866-474-6342 or consult your Bluestar Silicones representative.

### Packaging

**BLUESIL™ V-249** is available in 2 kg, 20 kg, and 200 kg containers.

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## Instructions for use

### MIXING GUIDELINES FOR BLUESIL™ PLATINUM CURE MOLDMAKING SYSTEMS

1. Stir the base (Part A) well before use (except when machine dispensing).
2. Shake the curing agent container (Part B) well before use.
3. Weigh the desired amount of base into a clean mixing container. Tip the container and roll the base all the way around the side wall up to two inches from the top. This will prevent the curing agent from being absorbed into the container. Do not fill the container more than 1/3 full to allow sufficient room for expansion during the deaeration procedure.
4. Weigh the proper amount of curing agent into the container.
5. Mix the base and curing agent together by stirring with a stiff, flat ended metal spatula until a uniform color is obtained. Scrape the container walls and bottom to assure a thorough mix. If mechanical mixer is used, do not exceed 150 rpm.
6. Place the container into a vacuum chamber and evacuate the entrapped air from the mixture using a vacuum pump capable of achieving 29 inches of vacuum. The mixture will rise, crest and then collapse in the container. Interruption (bumping) of the vacuum may be necessary to prevent overflowing the container. Keep the mixture under a full vacuum for 5-10 minutes after the material has receded in the container.
7. Bleed air slowly into the vacuum chamber. When the chamber is at atmospheric equilibrium, remove the cover plate and take out the container.
8. Pour the deaired material **slowly** in a steady stream from one end of the mold box so that the material flows evenly over the pattern. This will minimize the entrapment of air bubbles under the flowing rubber. A "print" coat may be poured first over the pattern, which will also reduce the possibility of entrapping air in the cured rubber. A mold release (petroleum jelly) may be applied on the pattern first to improve release if desired.
9. CURING:
   A. ROOM TEMPERATURE CURING SYSTEMS: Allow the rubber to cure for 16-24 hours at 75°F (24°C) before removing the cured rubber from the pattern. For best results, allow the mold to air cure an additional 24 hours after the initial overnight cure before putting mold into production. Room temperature curing assures the lowest possible shrinkage. If cure acceleration is desired, mild heat may be employed. To minimize shrinkage, cure rubber at 100-130°F (38-54°C) for 4-6 hours. Higher temperatures may cause excessive shrinkage to occur.
   B. HEAT CURING SYSTEMS: BLUESTAR SILICONES heat-curing systems are primarily used for roll and transfer print pad applications where long work life and pot life are needed. FOLLOW THE SUGGESTED PRODUCT CURE SCHEDULE GUIDE LISTED ON FRONT OF SPECIFIC PRODUCT INFORMATION SHEET.
10. For bonding to wood or metals, use **BLUESIL™ V-04 primer**. Follow recommendations on the **BLUESIL™ V-04** primer technical data sheet for best results.

### MIXED PROCESSING PROPERTIES WILL BE AFFECTED BY TEMPERATURE VARIATIONS

- A decrease in work life and pot life may be expected to occur at temperatures exceeding 75°F (24°C). Room temperature curing moldmaking rubbers are particularly sensitive to higher temperatures. Refrigeration of the base (Part A) prior to use in hot environments has shown to improve the handling properties of these materials.
- Lower temperatures will increase the work life and pot life of this material. Cure temperatures below 68°F (20°C) are not recommended, and have been found to cause a reduction in final cure hardness and physical properties.
- This system contains a platinum catalyst, which may be inhibited by materials found in some organic polymer systems, chlorinated solvents, and some substrates. Especially troublesome materials are: amine cured epoxies, sulfur cured organic rubber systems such as natural rubber, polysulfide rubber, latex rubber and adhesives, sulfur containing modeling clays, PVC coated surfaces, and tin catalyzed silicone RTV rubbers. A patch test to determine compatibility is recommended when doubt exists.




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