

VI-SIL™ V-2340

MARCH 2000

TECHNICAL DATA SHEET

PRODUCT DESCRIPTION

VI-SIL V-2340 is a two component, addition cure, room temperature or heat accelerated cure silicone rubber compound. It is designed as a 42 Shore A rubber with high strength properties, long library life, low shrinkage, excellent detail reproduction, good release characteristics, and improved resistance to inhibition. V-2340 is an excellent choice for pattern shop, model shop, and Stereolithography service bureau mold making and tooling applications.

PRODUCT FEATURES AND BENEFITS

- 43 Shore A Hardness
- Color contrast to insure thorough mix
- Excellent release properties
- Same day demolding - 6 to 7 hours
- Fast physical property development
- Improved inhibition resistance
- Low viscosity for easy processing
- Excellent thick section cure
- High strength properties
- Good tear resistance

TYPICAL APPLICATIONS

- Conventional production and prototype molds
- Finished rubber parts
- Stereolithography (SLA) molds

TYPICAL PROPERTIES - AS SUPPLIED

Part A - Base Component

- | | |
|-------------------------|----------|
| • Color | White |
| • Consistency | Pourable |
| • Viscosity, cP.(mPa.s) | 38,000 |

Part B - Curing Agent (MCA 40)

- | | |
|---------|-------|
| • Color | Green |
|---------|-------|

SHELF LIFE

Six (6) months from date of shipment when stored at 24°C (75°F) in original unopened container.

TYPICAL CATALYZED PROPERTIES

Mixed at 24°C (75°F) and 50% R.H.

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|--|--------|
| • Mix Ratio, A:B (By Weight) | 10:1 |
| • Viscosity, cp.(mPa.s) | 30,000 |
| • Pot Life, min. (1) | 90 |
| • 24 Hour Thick Section Hardness Shore A (2) | 42 |

(1) Time at which material gels

(2) 0.25 in. (0.635 cm.) thick cup specimen

(3) 8x8x0.25 in. (20.3x20.3x0.64 cm) molded sheet

TYPICAL PROPERTIES OF CURED RUBBER

Cured 24 hours @ 24°C (75°F) and 50% R.H.

- | | |
|--|------------------------------|
| • Color | Green |
| • Specific Gravity | 1.31 |
| • Hardness, Shore A | 42 |
| • Tensile Strength, psi (N/mm ²) | 900 (6.2) |
| • Elongation (%) | 400 |
| • Tear Resistance, ppi (N/mm) | 150 (26) |
| • Linear Shrinkage (%) (3) | |
| 24 Hours | <0.1% |
| • Coverage, cu.in/lb. (cc/kg) | 21.3 (769) |
| • Temperature Range | -65 to 400°F
-54 to 204°C |

NOTE: V-2340 cure time may be accelerated by oven curing at 120-150°F (49-65°C) for 2-3 hours. HEAT CURING WILL EFFECT PHYSICAL PROPERTIES.

NOT FOR PRODUCT SPECIFICATION: The technical data contained herein are intended for reference only and **are not** intended for use in preparing sales specifications. For assistance and recommendations on sales specifications for this product, contact RHODIA VSI at (800) 356-7560 or (518) 285-6300.



MIXING GUIDELINES FOR VI-SIL™ 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:** RHODIA VSI 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 VI-SIL™ VSI V-04 primer. Follow recommendations on V-04 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.

SAFETY PRECAUTIONS

USE IN ACCORDANCE WITH MATERIAL SAFETY DATA SHEET

The curing agent for this material can generate a flammable gas upon contact with acidic, basic, or oxidizing materials. Precautions to avoid contact of this curing agent with these materials should be exercised. Keep product away from children. A material safety data sheet for this product is available from customer service by calling 800-356-7560.

FOR THE NAME OF YOUR NEAREST RHODIA VSI SALES REPRESENTATIVE OR DISTRIBUTOR, AND FOR TECHNICAL ASSISTANCE ON THIS PRODUCT AND OTHER RHODIA VSI PRODUCTS, CONTACT CUSTOMER SERVICE AT (800) 356-7560

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