

## INNERBOND C-990 RTV SILICONE CONSTRUCTION AND GLAZING SEALANT

Innerbond C-990 RTV Sealant is a tough, high-performance, acetoxy-cure, 100% silicone sealant. It is easily gunned, fast curing at most temperatures and provides a durable watertight bond with  $\pm 25\%$  movement capability. It is also approved for use as a sealant in establishments operating under the Federal meat and poultry products inspection program. Innerbond C-990 exhibits impressive weatherability, long term durability, flexibility and resistance to ozone and U.V. exposure. It also develops tenacious adhesion to a wide range of clean surfaces to include metal, glass, most types of non-oily woods, silicone resin, vulcanized silicone rubber, ceramic, natural and synthetic fiber, and many painted and plastic surfaces. This tough, durable silicone rubber will retain its physical properties through a service temperature range from  $-80^{\circ}\text{F}$  ( $-62^{\circ}\text{C}$ ) to  $+450^{\circ}\text{F}$  ( $+232^{\circ}\text{C}$ ) in adverse exterior and interior applications.

Innerbond C990 RTV Silicone Sealant offers the following unique advantages:

- Ready-to-use, one-component system that is available in a variety of packaging options.
- Thixotropic, paste-like consistency; flows only under pressure and will not sag, slump or run off on overhead and vertical applications.
- Excellent adhesion to many clean surfaces, often without the use of primer.
- High resistance to weathering, vibration, shock, moisture, ozone, U.V. exposure and temperature extremes.
- All-weather gunnability; can be applied in sub-zero weather without loss of extrusion or physical property characteristics.
- NSF Standard 51 listed.\*
- USDA / FDA 21.CFR 177.2600 approved.\*
- Conforms to MIL-A-46106A, Type I, USDA
- Meets TT-S-001543A, TT-S-00230C and ASTM C-920-79

\*except bronze color

### USES

Innerbond C990 RTV Silicone Sealant is an exceptionally versatile silicone rubber. Typical applications include:

- Electrical insulation and sealing
- Bonding gaskets in heating and refrigeration units
- Bonding and sealing appliance parts, nameplates/signs and screwless brackets
- Formed-in-place gaskets for pumps, compressors and gear boxes
- Adhering auto and appliance trim, including metal, fabric and fabric-backed plastics
- Tacking plastic materials to metal
- Sealing windows in oven doors and flues on gas appliances, flanged pipe joints and access doors
- Sealing truck cabs and trailers
- Creating anti-abrasion coatings
- Sealing surfaces and equipment which may contact edible products in establishments operating under the Federal meat and poultry products inspection program
- Filletting and caulking joints in HVAC systems, sheetmetal stacks, ductwork, housings and equipment housings
- Weatherproofing and sealing aircraft and automotive cowlings
- Fabricating and installing windows, skylights and doors
- Sealing and weatherproofing flashing, siding, gutter/drain systems and perimeter joints
- Sealing marine cabins, ports, hatches and deck fittings

## TYPICAL PROPERTIES

<b>COLORS</b>	Various	<b>SPECIFIC GRAVITY AT 77°F (25°C)</b>	1.03
<b>EXTRUSION RATE (3.18mm orifice, 90 psi)</b>	400 g/min	<b>FLOW RATE (sag/slump on 3.18 x 101.6mm bead)mm</b>	Nil
<b>TACK-FREE TIME AT 77°F (25°C) and 50% RH</b>	10 - 20 minutes	<b>CURE TIME AT 77°F (25°C) and 50% RH (3.18mm thickness)</b>	24 hours
<b>DUROMETER HARDNESS, SHORE A</b>	27 POINTS	<b>TENSILE STRENGTH</b>	350 psi (2.4 MPa)
<b>ELONGATION</b>	600%	<b>BRITTLE POINT</b>	-80°F (-62°C)
<b>HIGH SERVICE TEMPERATURE LIMIT</b>	+450°F (+232°C)	<b>DYNAMIC MOVEMENT CAPABILITY</b>	±25%

## LIMITATIONS

Innerbond C990 RTV Silicone Sealant will corrode or not adhere to copper, brass (and other copper-containing alloys), magnesium, zinc and galvanized metals (and other zinc-containing alloys). This sealant is not recommended for use on brick masonry and cementitious substrates, or surfaces which will be painted. (The paint film will not stretch with the extension of the sealant and may crack or peel. Paint first, then apply sealant thereafter.) Best adhesion and compatibility are not achieved with substrates made of methylmethacrylate (PLEXIGLAS®), polycarbonate, polypropylene, polyethylene and polytetrafluoroethylene (TEFLON®). This sealant is not recommended for below-grade applications, total water immersion situations or for joints with extreme movement. It is further not intended for structural glazing. Do not use in areas where abrasion and physical abuse are encountered.

## HOW TO USE

Innerbond C990 RTV Silicone Sealant adheres to many clean surfaces without the use of primers. These surfaces include glass, ceramic, many metals, some rigid plastics and silicone rubber. Innerbond C990 RTV Silicone Sealant will also produce a fair bond to some flexible plastics (which do not contain plasticizers) and to organic rubber. For any applications an evaluation should be made to determine bond strength.

To prepare surfaces for maximum adhesion, first clean with suitable solvents such as MEK (methyl ethyl ketone), naphtha, or 1,1,1-trichloroethane to remove all grease, dirt and oil. All solvents must be wiped from surfaces before the sealant is applied. For best results apply at a temperature no lower than 50°F. The sealant should be tooled immediately after application and before a skin forms, using light pressure to spread it against the substrate. Uncured sealant may be cleaned from non-porous surfaces and tools using a solvent such as xylene. On porous surfaces, allow the sealant to cure and remove by abrasion.

Cure time is affected by relative humidity, degree of confinement and cross-sectional thickness of the sealant. Sections up to 1/8-inch thick become rubbery solids in about 24 hours at room temperature at 20 percent relative humidity. More moisture content reduces cure time slightly. Curing time increases with the thickness of the sealant. A 1/2-inch cross section, for example, may require 3 or 4 days for the complete solidification. However, the cure will have penetrated the outer 1/8-inch in about 24 hours.

In applications where Innerbond C990 RTV Silicone Sealant may be partially or totally confined during cure, the time required for proper cure is generally lengthened by the degree of confinement. It is possible that with absolute confinement cure will not be completed. The result is the softening of the sealant at elevated temperatures. Metal-to-metal bonds should not overlap more than one inch. Every application involving confinement during cure should be thoroughly tested before field application.

**CAUTION**

Uncured Innerbond C990 RTV Silicone Sealant will irritate the eyes. In case of contact with eyes, flush with water for 15 minutes and consult a physician. The uncured sealant may also irritate the skin. Prompt removal by wiping with a dry cloth or paper towel, followed by washing the skin with soap and water is recommended.

Innerbond C990 RTV Silicone Sealant releases acetic acid vapors during the curing period. Effective ventilation must be maintained during application and curing to limit the concentration of acetic acid vapor (which is irritating to the eyes and breathing passages). Wearing of contact lenses during use should be avoided because vapor may be trapped behind the lenses. Use only in well-ventilated work areas.

Product Material Safety Data Sheets are available upon request.

**PACKAGING**

Innerbond C990 RTV Silicone Sealant is provided in 10.1 ounce cartridges, 5 gallon pails and 55 gallon drums.

**NOTE**

The information and data contained herein are believed to be accurate and reliable; however, it is the user's responsibility to determine suitability of use. Since Inland, Inc. cannot know all of the uses to which its products may be put or the conditions of use, it makes no warranties concerning the fitness or suitability of its products for a particular use or purpose.

Thorough testing of our product on any proposed use should be conducted prior to each application. It is the responsibility of the consumer to evaluate the performance of our product in each given application. Likewise, if the manner in which our products are used requires governmental approval or clearance, it is the user's responsibility to obtain it.

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