

P.O. Box 644 (42702)  
209 Peterson Drive  
Elizabethtown, KY 42701

KY Phone: 270-737-6757  
Outside KY: 800-626-4403  
Fax: 270-737-6241

Website: [www.Inland-Inc.com](http://www.Inland-Inc.com)  
Email: [Inland22@aol.com](mailto:Inland22@aol.com)

## INNERBOND C-616 HIGH TEMPERATURE GASKET SILICONE SEALANT

Innerbond C-616 High Temperature Gasket Adhesive / Sealant is a one-component, ready-to-use, non-slumping, non-sagging 100% silicone material that cures to a tough, rubbery solid when exposed to atmospheric moisture. (Room temperature vulcanizing). Innerbond C-616 was formulated to perform at temperatures up to 500°F (260°C) continuously and 600°F (315°C) for intermittent exposure.

Innerbond C-616 Gasket Adhesive / Sealant is characterized by the following advantages:

- Resistance to high temperatures - will retain electrical and physical properties for extended periods at temperatures to 500°F (260°C) and for intermittent exposure to 550°F (288°) for blue and 600°F (315°C) for red.
- One-component product - no mixing or catalyzing required.
- Thixotropic paste consistency - products will flow only with external pressure. Can be applied to a vertical, horizontal and overhead surface without sagging, slumping or running off.
- Excellent Adhesion properties - will bond to many surfaces without the use of primers.
- Weatherability and ozone resistance - excellent resistance to weathering, vibration, moisture and ozone.
- Chemical resistance - provides reliability and extended service life in adverse environments.
- Low temperature flexibility - properties retained at temperatures as low as -75°F (-60°C).
- Electrical insulation properties - can be used for electrical insulation.
- Conforms to MIL-A-4606A, Type I and MIL-A-46106A, Type I
- FDA - may be on incidental food contact surfaces.

### APPLICATIONS

The paste consistency of Innerbond C-616 Gasket Adhesive / Sealant makes it ideally suited for vertical, horizontal and overhead applications, provided sufficient surface contact is maintained. These materials should be used in thicknesses up to 1/4 inch (6mm for bonding, sealing and joining metal and plastics, electrical insulation, protective coatings, and formed in place gaskets.

To avoid prolonged curing periods in applications that require thicknesses greater than 1/4 inch (6 mm) Inland's two-component silicone rubber compounds are recommended.

### TYPICAL PROPERTIES

UNCURED			
Color	Blue and Red	Specific Gravity at 77°F (25°)	1.06
Consistency	Spreadable paste	Application Rate (0.125 in orifice at 90 psi)	100 gm/min
Tack Free Time, at 77°F 50% RH	10 - 20 min		
CURED - 96 Hours at 77°F (25°C) 50% RH			
Hardness, Shore A	25	Tensile Strength	300 psi
Elongation	450%	Volume Resistivity, ohm, cm	10 <sup>14</sup>
Dielectric strength, kv/mm	16	Dielectric constant at 60 HZ	2.8
Dissipation factor at 60 HZ	0.0028	Brittle Point	-80°F
Thermal conductivity, cal/sec/cm <sup>2</sup> , °C/cm		0.008	

## **FDA STATUS**

The ingredients contained in Innerbond C-616 Gasket RTV Adhesive/Sealant comply with food additive regulations 21 CFR 175.300 (Resinous and Polymeric Coating).

## **SPECIFICATIONS**

Innerbond C-616 Gasket RTV Adhesive/Sealant is designed to meet the requirements of military specification MIL-A-46106A, Type I.

## **USES**

Innerbond C-616 Gasket RTV Adhesive/Sealant adheres to many clean surfaces without the use of primers. These surfaces include glass, ceramic, and many metals, some rigid plastics and silicone rubber. C-616 Gasket Adhesive / Sealant will also produce fair bonds to some flexible plastics which do not contain migratory plasticizers, and to many organic rubber materials. For any of the applications above, an evaluation should be made to determine bond strength.

In order to prepare surfaces for maximum adhesion, surfaces should be cleaned 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 sealant is applied.

If solvents are used as described above, please follow solvent manufacturer's safety procedures for their use.

## **CURE TIME**

Cure time is affected by relative humidity, degree of confinement and cross-sectional thickness of the sealant. The cure progresses inward from the surface. At 77°F (25°C) and 50% relative humidity, the sealant will form a tack free skin with 10-20 minutes; tooling is not practical after the skin begins to form and should be completed within 5 to 10 minutes of application.

Sections up to 1/8" thick become rubbery solids in approximately 24 hours at room temperature and 50% relative humidity.

As C-616 Gasket Adhesive/Sealant cures, acetic acid vapors are released from the surface of the sealant. The acetic acid odor will disappear when cure is complete.

## **BONDING**

In addition to the effects of temperature and humidity on cure time, maximum development of bond strength will depend on joint configuration, sealant thickness, degree of confinement and the porosity of the substrate.

Usually, bond strength will develop sufficiently within 12 to 24 hours to permit handling. Only low stress levels should be applied to the joint until full adhesion strength is developed. Certain substrates require the use of a primer to obtain optimum bond adhesion.

## **CLEANUP**

Solvent such as methyl ethyl ketone (MEK), naphtha, and 1,1,1-trichloroethane can be used to remove uncured materials. Cured silicone is difficult to remove without damaging or altering the surface if misapplied.

## **STORAGE AND HANDLING**

When stored in the original, unopened container at temperatures less than 90°F, Innerbond C-616 Gasket RTV Adhesive/Sealant offers a useful life of one year. After the container has been opened, a plug of cured material may form in the nozzle or tube tip during storage. This is easily removed and does not effect the remaining contents.

**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.

Inland, Inc. warrants only that each product will meet its specifications. There is no warranty of merchantability or fitness for use, nor any other expressed or implied warranties. The user's exclusive remedy and Inland, Inc.'s sole liability is limited to replacement of any product shown to be otherwise than as warranted. Inland, Inc. will not be liable for incidental or consequential damages of any kind.

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