

SILASTIC® Silicone Sealants

DOW CORNING

Technical Information

DESCRIPTION

Silastic® 1080 RTV Adhesive/Sealant is a one-part, neutral (non acid) silicone material of paste-like consistency that cures to a tough, rubbery solid when exposed to moisture in the air. It is especially recommended for corrosion sensitive materials where acid curing types of sealant cannot be tolerated or where curing odours may be objectionable. Silastic® 1080 RTV Adhesive/Sealant will not flow of its own weight and can be applied to overhead or vertical joints and surfaces without slumping, sagging or running off. The material is specially formulated to adhere to clean metal — including chrome — painted surfaces, glass, ceramics, most plastics, non-oily woods, fibrous cement and concrete surfaces.

Silastic® 1080 RTV Adhesive/Sealant has excellent resistance to weathering, vibration, moisture, ozone and extreme temperatures. It can be applied at temperatures of -28°C to 70°C without loss of extrusion properties or curing characteristics. Fully cured Silastic® 1080 RTV Adhesive/Sealant can be used in applications where temperatures reach 232°C and up to 260°C for short periods.

USES

- Sealing of lock seams, welds and fasteners in metal fabrication.
- Sealing dissimilar metals and corrosion sensitive surfaces e.g. chrome, copper, steel.
- As formed-in-place gasket it replaces conventional cork, paper and rubber gaskets on gear boxes, differential housing pumps and compressors.
- Sealing vehicle windscreens, oven doors, access doors in glass-to-metal applications.
- Caulking joints in duct-work, cement surfaces and metal pipes.
- Attaching signs and sign letters to metal, masonry and concrete surfaces.

SILASTIC® 1080 Neutral-Cure Adhesive/Sealant

Type	One-part, neutral cure, room temperature vulcanising silicone rubber
Physical Form	
As Supplied	Non-slumping paste
As Cured	Tough, rubbery solid
Cure	Cures at room temperature, on exposure to water vapour in the air
Key Features	Non corrosive cure mechanism; good tear strength; wide service temperature range; resistant to ozone; moisture weathering
Colour	Translucent

TYPICAL PROPERTIES

These values are not intended for use in preparing specifications.

As Supplied

Colour	Translucent
Specific Gravity at 25°C	1.03
Extrusion Rate (3mm orifice 620 kPa air pressure), grams per minute	350
Flow (sag or slump of a 3mm x 10mm bead, mm)	Nil

Cure Characteristics*

Tack Free Time, minutes	20 to 30
Cure Time (3mm thickness), hours	24

As Cured — Physical †

ASTM Durometer hardness, Shore A scale	23
ASTM Tensile Strength, kPa	2000
ASTM Elongation, Percent	500
ASTM Brittle Point, °C	-70

* Exposed to air at 25°C, 50 percent Relative Humidity
† (Measured on slabs 3mm thick, exposed to air at 25°C, 50 percent Relative Humidity for 72 hours)

LIMITATIONS

Do not use where transitory or incidental food contact may be involved. Companion products Silastic® 732 RTV Adhesive/Sealant and Silastic® 738 RTV Adhesive/Sealant are available and both meet requirements of U.S. FDA Regulation No. 21 CFR 177.2600

For applications involving sensitive electrical equipment, or where electrical properties are required, Silastic® 738 RTV Adhesive/Sealant is recommended.

HOW TO USE

Silastic® 1080 RTV Adhesive/Sealant is supplied ready for use. It can be readily squeezed from its cartridge and easily tooled. Use a spatula or wooden paddle for this purpose.

TACK FREE AND CURE TIME

On exposure to moisture in the air, the surfaces of the adhesive/sealant will form a tack-free skin in less than 1 hour at room temperature. The material beneath this skin will continue to cure, and in about 24 hours, sections up to 3mm thick will be cured to a rubbery solid. Cure time is affected by relative humidity, degree of confinement, and cross-sectional thickness of the adhesive/sealant. Sections up to 3mm thick become rubbery solids in about 24 hours at room temperature at 20 percent relative humidity. Less moisture extends curing time and higher moisture content reduces it slightly. In 24 hours, sections up to 3mm thick cure to a rubber with a Shore A durometer hardness rating of around 20 points.

In applications where Silastic® 1080 RTV Adhesive/Sealant may be partly or totally confined during cure, the time required for proper cure is generally lengthened by the degree of confinement. It is possible, with absolute confinement that cure will not be completed. The result is the

softening of the adhesive/sealant at elevated temperatures. Metal-to-metal bonds should not overlap more than 25mm. Every application involving confinement during cure should be thoroughly tested before commercialization.

Curing time increases with the thickness of the adhesive/sealant. A 12mm cross-section, for example, may require 3 or 4 days for complete curing. However, the cure will have penetrated the outer 3mm in about 24 hours.

BONDING APPLICATIONS

Silastic® 1080 RTV Adhesive/Sealant bonds well to metal, silicone rubber, most plastics and glass without the use of a primer. For optimum adhesion on some materials such as plastics, the use of a Dow Corning® 1200 Series primer may be required. If in doubt about adhesion, contact Dow Corning for advice.

TO APPLY

1. Clean and degrease all metal or plastic surfaces, then wipe or rinse all surfaces, except acetate plastics with *acetone*.
2. Once solvent has thoroughly dried from surfaces apply Silastic® 1080 RTV Adhesive/Sealant to the prepared surface in a uniform thickness. Then put the other surface in place and use enough pressure to displace the adhesive/sealant. Best adhesion is obtained with approximately 15mm glue line.

3. Let the unit stand undisturbed at room temperature. The time required to effect a cure will vary with the thickness of the parts being joined and with the permeability of the materials; normally 6 to 24 hours will suffice for units having one permeable member. Full bond strength will be established after about 72 hours at room temperature.

NOTE:

If both surfaces are impermeable as in the case of two metal plates, time for complete cure depends on the thickness of the Silastic® 1080 RTV Adhesive/Sealant and on the area under the joint. The larger the unexposed bond area, the longer the cure time required. For shorter curing time and maximum bond strength, keep the area enclosed by the joint to a minimum.

SHIPPING LIMITATIONS

None.

STORAGE

Silastic® 1080 RTV Adhesive/Sealant should be stored in a dry place below 32°C. Refrigeration is not necessary. For best results, Silastic® 1080 RTV Adhesive/Sealant cures upon exposure to humidity in the air, keep container sealed when not in use.

PACKAGING

Silastic® 1080 RTV Adhesive/Sealant is available in 310g cartridges and 20kg pails. All weights net.

USERS PLEASE READ

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 Dow Corning 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.

You should thoroughly test any proposed use of our products and independently conclude satisfactory performance in your application. Likewise, if the manner in which our products are used requires governmental approval or clearance, you must obtain it.

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