



DOW CORNING® 738 RTV Adhesive/Sealant

FEATURES

- Non-corrosive cure
- Good tear strength
- Good dielectric properties
- Easy handling
- Temperature range from -65°C to +180°C for extended periods (up to 260°C for short periods)
- Resistant to ozone, corona, moisture and weathering
- Room temperature cure
- Cures when exposed to moisture in the air to form a tough, flexible rubber

One part, ready to use, non-slumping silicone adhesive

APPLICATIONS

- Sealing of corrosion-sensitive components and around wires and electrical connections, control boxes, conduit ends, printed circuit boards, motors, generators, terminals, leads and splices.
- Used in work areas where the usual sealant curing odours caused by relevant product would be objectionable.

TYPICAL PROPERTIES

Specification writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales representative prior to writing specifications on this product.

CTM*	ASTM*	Property	Unit	Value
As supplied at 25°C and 50% relative humidity				
		Color		White
		Consistency		Non-slump paste
		Extrusion rate, 3.2mm orifice at 0.62MPa	g/minute	565
0098		Skin-over time	minutes	20
0095		Tack free time	hours	2
		Cure time, 0.6mm thickness	hours	24
		Cure time, 3mm thickness	hours	72
		Full cure, 3mm thickness	days	7
		Corrosion properties		Non corrosive
Physical properties, cured 7 days at 25°C and 50% relative humidity				
0022	D792	Relative density at 25°C		1.04
0099	D2240	Durometer hardness, Shore A		32
0137A	D412	Tensile strength	MPa	2.7
0137A	D412	Elongation at break	%	530
0159A	D624	Tear strength - die B	kN/m	2.8
		Peel strength, primed 6.35mm steel strip to aluminium	kN/m	3
		Volume coefficient of thermal expansion, from 0 to 100°C	1/K	9.3x10 ⁻⁶
0224	D2214	Thermal conductivity	W/(m.K)	0.2

TYPICAL PROPERTIES (continued)

CTM*	ASTM*	Property	Unit	Value
Electrical properties, cured 7 days at 25°C and 50% relative humidity				
0114	D149	Dielectric strength	kV/mm	20
0112	D150	Permittivity at 25°C 100Hz		2.88
0112	D150	Permittivity at 25°C 100kHz		2.88
0112	D150	Dissipation factor at 25°C 100Hz		4.2x10 ⁻⁴
0112	D150	Dissipation factor at 25°C 100kHz		6.8x10 ⁻⁴
0249	D257	Volume resistivity	Ohm.cm	3.6x10 ¹⁵

* CTM: Corporate Test Method, copies of CTMs are available on request.

ASTM: American Society for Testing and Materials.

HOW TO USE

Substrate preparation

DOW CORNING 738 RTV Adhesive/Sealant forms a bond to most clean, dry surfaces of metals, glass, silicone or organic resins and vulcanised silicone rubber. However, bond strength may be inconsistent unless a primer is used. For maximum adhesion use of DOW CORNING® 1200 Primer is recommended for preparing metal and plastic surfaces. For best results:

1. Clean the surface with a chlorinated solvent (see Handling Precautions), a slightly abrasive pad or a coarse lint-free cloth.
2. Rinse cleaned surface with acetone or methyl ethyl ketone.
3. Apply a thin coat of primer by dipping, brushing or spraying.
4. Allow the primer to dry for about 1 hour, at room temperature and a relative humidity of 50% or higher.
5. Silicone rubber surfaces should not normally be primed, but only roughened slightly with abrasive paper and rinsed with acetone.

How to apply

DOW CORNING 738 RTV Adhesive/Sealant has a paste like consistency and can be applied directly from its collapsible tube or extruded from its cartridge. A plastic nozzle is supplied which may be cut to the desired orifice size and shape to facilitate application.

Apply DOW CORNING 738 RTV Adhesive/Sealant to the prepared surface in a uniform thickness of 0.25-0.75mm. If the adhesive is to be used to bond two surfaces, apply it

first to one surface and allow it to establish a uniform contact before putting the other surface in place. When placing the second surface, use enough pressure to spread the adhesive and displace any trapped air.

Best adhesion is obtained with an approximately 1.5mm thick glue line. Metal to metal bonds should not overlap more than 25mm. Let the unit stand undisturbed until it cures sufficiently. The odour given off during cure is due to the liberation of alcohol and will disappear when the cure is complete.

For information on appropriate dispensing equipment for your application, please contact Dow Corning.

Working and cure time

On exposure to moisture in the air, the surface of DOW CORNING 738 RTV Adhesive/Sealant will "skin over" in about 20 minutes at room temperature with 50% relative humidity. Any tooling should be completed before this "skin" forms. The surface is easily tooled with a spatula. The adhesive will be tack free in less than 2 hours.

Curing continues inward from the surface. In 24 hours (at room temperature and 50% relative humidity), DOW CORNING 738 RTV Adhesive/Sealant will cure to a depth of 0.6mm. In 72 hours it will cure to a 3mm thickness with a Durometer Hardness of about 30. Deep sections take several weeks for a complete cure .

Cure time is extended at lower

humidity levels. This effect becomes pronounced below 20% relative humidity. If both bonded substrates are impermeable to moisture, as in the case of two metal plates, cure time will depend upon the thickness of the adhesive and the area under the joint. For best results, the bonded surfaces should not overlap by more than 25mm.

HANDLING PRECAUTIONS

PRODUCT SAFETY
INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE FROM YOUR LOCAL DOW CORNING SALES REPRESENTATIVE.

USABLE LIFE AND STORAGE

When stored at or below 27°C in the original unopened containers, DOW CORNING 738 RTV Adhesive/Sealant has a usable life of 7 months from the date of production.

As DOW CORNING 738 RTV Adhesive/Sealant cures by reaction with moisture in air, keep the container tightly sealed when not in use. A plug of used material may form in the tip of a tube or cartridge during storage. This is easily removed and does not affect the remaining contents.

PACKAGING

DOW CORNING 738 RTV
Adhesive/Sealant is available in 90ml
tubes, 310ml cartridges and 20 litre
pails.

LIMITATIONS

This product is neither tested nor
represented as suitable for medical or
pharmaceutical uses.

HEALTH AND ENVIRONMENTAL INFORMATION

To support customers in their product
safety needs, Dow Corning has an
extensive Product Stewardship
organization and a team of Health,
Environment and Regulatory Affairs
specialists available in each area.

For further information, please
consult your local Dow Corning
representative.

WARRANTY INFORMATION - PLEASE READ CAREFULLY

The information contained herein is
offered in good faith and is believed
to be accurate. However, because
conditions and methods of use of our
products are beyond our control, this
information should not be used in
substitution for customer's tests to
ensure that Dow Corning's products
are safe, effective, and fully
satisfactory for the intended end use.
Dow Corning's sole warranty is that
the product will meet the
Dow Corning sales specifications in
effect at the time of shipment. Your
exclusive remedy for breach of such
warranty is limited to refund of
purchase price or replacement of any
product shown to be other than as
warranted. Dow Corning specifically
disclaims any other express or implied
warranty of fitness for a particular
purpose or merchantability. Unless
Dow Corning provides you with a
specific, duly signed endorsement of
fitness for use, Dow Corning
disclaims liability for any incidental
or consequential damages.
Suggestions of use shall not be taken
as inducements to infringe any patent.

