

— 101.705 —

## DOW CORNING® 734 RTV

### ADHESIVE/SEALANT

**One part, ready to use, free-flowing liquid**

#### FEATURES

- ◆ Flowable and self-levelling
- ◆ Excellent electrical insulating properties
- ◆ Pours freely for easy application
- ◆ Simple to apply - one part, room temperature cure
- ◆ Flexible from -65°C to +265°C
- ◆ Excellent resistance to weathering, vibration, moisture and ozone
- ◆ Good chemical stability
- ◆ Its low viscosity allows it to fill minute crevices and voids in potting and sealing applications.
- ◆ Cures when exposed to moisture in the air to form a tough, flexible rubber.

#### APPLICATIONS

- ◆ For general purpose adhesive and sealing application in the electronics industry.
- ◆ Particularly suitable for sealing assemblies with fine joints as well as cable entries and connectors, to ensure that they remain water tight.
- ◆ Can be used for slicing cables and wires and producing formed-in-place gaskets.
- ◆ Due to its good adhesion to other silicone rubbers, ideally suited for making fields repairs on existing equipment where a part of an existing silicone encapsulant has been removed.

#### TYPICAL PROPERTIES

Specifications writers: These values are not intended for use in preparing specifications. Please contact Dow Corning Europe, La Hulpe, Belgium before writing specifications on this product.

| CTM*                                                                         | ASTM* | Property                                | Unit    | Value                      |
|------------------------------------------------------------------------------|-------|-----------------------------------------|---------|----------------------------|
| <b>Physical properties, as supplied at 25°C and 50% relative humidity</b>    |       |                                         |         |                            |
|                                                                              |       | Colour                                  |         | White or clear translucent |
| 0050                                                                         | D1084 | Viscosity at 25°C                       | mPa.s   | 46,000                     |
| 0098                                                                         |       | Skin-over time                          | minutes | 8                          |
| 0095                                                                         |       | Tack-free time                          | minutes | <60                        |
|                                                                              |       | Cure time - 3mm exposed bead            | hours   | 24                         |
| <b>Physical properties, cured 7 days at 25°C and 50% relative humidity</b>   |       |                                         |         |                            |
| 0022                                                                         | D792  | Relative density                        |         | 1.03                       |
| 0099                                                                         | D2240 | Durometer hardness                      | Shore A | 27                         |
| 0137A                                                                        | D412  | Tensile strength                        | MPa     | 1.4                        |
| 0137A                                                                        | D412  | Elongation at break                     | %       | 300                        |
| 0159A                                                                        | D624  | Tear strength - die B                   | kN/m    | 3.6                        |
|                                                                              |       | Brittle point                           | °C      | -70                        |
| 0420                                                                         |       | Volume coefficient of thermal expansion | 1/K     | 0.00093                    |
| 0224                                                                         | D2214 | Thermal conductivity                    | W/(m.K) | 0.21                       |
| <b>Electrical properties, cured 7 days at 25°C and 50% relative humidity</b> |       |                                         |         |                            |
| 0114                                                                         | D149  | Dielectric strength                     | kV/mm   | 17                         |
| 0249                                                                         | D257  | Volume resistivity                      | ohm.cm  | 1.7x10 <sup>15</sup>       |
| 0112                                                                         | D150  | Permittivity at 100Hz                   |         | 2.7                        |
| 0112                                                                         | D150  | Permittivity at 100kHz                  |         | 2.7                        |
| 0112                                                                         | D150  | Dissipation factor at 100Hz             |         | 0.002                      |

## TYPICAL PROPERTIES (continued)

| CTM* | ASTM* | Property                     | Unit | Value  |
|------|-------|------------------------------|------|--------|
| 0112 | D150  | Dissipation factor at 100kHz |      | 0.0006 |

\* CTM : Corporate Test Method, copies of CTM's are available on request.  
ASTM : American Society for Testing and Materials.

### HOW TO USE

#### Substrate preparation

DOW CORNING 734 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, the use of DOW CORNING® 1200 Primer is recommended. For the 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 with a relative humidity of 50% or higher. Longer drying time is recommended at lower relative humidity.
5. Silicone rubber surfaces should not normally be primed, but only roughened slightly with abrasive paper and rinsed with acetone.

#### How to apply

Apply DOW CORNING 734 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 only 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 acetic acid. It 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 734 RTV Adhesive/Sealant will "skin over" in about 10 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 60 minutes.

Curing continues inward from the surface. In 24 hours (at room temperature and 50% relative humidity), DOW CORNING 734 RTV Adhesive/Sealant will cure to a depth of 3mm. 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.

### Compatibility

DOW CORNING 734 RTV Adhesive/Sealant releases a small amount of acetic acid during curing. This may cause corrosion on some delicate electronic equipment, especially in direct contact. Users are advised to check compatibility before use.

### HANDLING PRECAUTIONS

A Product Safety Data Sheet should be obtained from your nearest Dow Corning sales office prior to use.

ATTENTION: Before handling, read product information, Product Safety Data Sheets and container labels for safe use, and any physical and/or health hazard information.

Dow Corning neither recommends nor has tested this material for medical or for pharmaceutical end use. Not for human injection.

### USABLE LIFE AND STORAGE

When stored at or below 32°C in the original unopened containers DOW CORNING 734 RTV Adhesive/Sealant has a usable life of 24 months from the date of production.

Dow Corning will guarantee the usable life of DOW CORNING 734 RTV Adhesive/Sealant until the date indicated on the packaging. This date is shown by the letters "EXP" (meaning Expiry) followed by 4 digits, which stand for the month (last day) and year. Example: "EXP 03/99" means use by 31 March 1999.

As DOW CORNING 734 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 INFORMATION

DOW CORNING 734 RTV Adhesive/Sealant is available in 90ml tubes, 310ml cartridges and 20 litre pails.

### HEALTH AND ENVIRONMENTAL INFORMATION

Dow Corning has a dedicated team of toxicologists as well as environmental and regulatory affairs specialists located at its European Head Office in Brussels. Dow Corning's Health, Environment and Regulatory Affairs (HERA) Department is available to guide Dow Corning and support its customers in the safe manufacture, distribution, handling and use of its products. If you require further information on specific Dow Corning products, please contact this group at:

Dow Corning Europe  
HERA Department  
Rue Général de Gaulle, 62  
B-1310 La Hulpe  
Belgium  
TEL:  
Int +32 (0)2 655 2523

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| <b>UNITED KINGDOM</b><br>Dow Corning Ltd.<br>Kings Court, 185 Kings Road<br>Reading, Berks RG1 4EX<br>Tel: INT + 44 (0)118 - 950 72 51<br>Fax: INT + 44 (0)118 - 957 50 51 | <b>GERMANY</b><br>Dow Corning GmbH<br>Rheingaustraße 34<br>D-65201 Wiesbaden<br>Postfach 130332<br>D-65091 Wiesbaden<br>Tel: INT + 49 (0)611 - 23 71<br>Fax: INT + 49 (0)611 - 236 610 | <b>BENELUX<br/>MIDDLE EAST &amp; AFRICA</b><br>Dow Corning Europe<br>rue Général de Gaulle 62<br>B-1310 La Hulpe, Belgium<br>Tel: INT + 32 (0)2 - 655 21 11<br>Fax: INT + 32 (0)2 - 655 20 08<br>Telex: 22530 | <b>NORDIC COUNTRIES</b><br>Dow Corning Nordic A.B.<br>Representative Office<br>Farögatan, 7<br>S-164 40 Kista, Sweden<br>Tel: INT + 46 8 - 703 26 40<br>Fax: INT + 46 8 - 703 29 64 |
| <b>ITALY</b><br>Dow Corning S.p.A.<br>Palazzo Sirio, Viale Colleoni 11<br>I-20041 Agrate Brianza (Milan)<br>Tel: INT + 39 39 - 60 711<br>Fax: INT + 39 39 - 68 99 660      | <b>AUSTRIA</b><br>Dow Corning GesmbH<br>Ghegastraße 3, A-1030 Wien<br>Tel: INT + 43 1 - 798 25 01<br>Fax: INT + 43 1 - 798 21 79<br>Telex: 133084                                      | <b>FRANCE</b><br>Dow Corning France S.A.<br>20 Boulevard Eugène Dervelle<br>F-69432 Lyon Cedex 03<br>Tel: INT + 33 (0)4 72 84 13 60<br>Fax: INT + 33 (0)4 72 84 13 79                                         | <b>SPAIN</b><br>Dow Corning Iberica S.A.<br>Avda Diagonal 613, 5º<br>E-08028 Barcelona<br>Tel: INT + 34 (0)3 - 405 12 15<br>Fax: INT + 34 (0)3 - 405 38 94                          |