



Technical Data Sheet

DOWSIL™ 791 Silicone Weatherproofing Sealant

FEATURES & BENEFITS

- Ideal for expansion, connection, perimeter and other movement joints
- Neutral cure
- Low odor
- Conforms to ISO 11600-F&G-25LM
- Resistant to ozone, ultra-violet radiation and temperature extremes
- Joint movement capability ± 50%

Neutral silicone sealant

APPLICATIONS

- DOWSIL™ 791 Silicone Weatherproofing Sealant is a one-part, neutral curing, low modulus silicone sealant particularly suitable for general glazing and weather sealing in curtain wall and building facades.

TYPICAL PROPERTIES

Specification Writers: These values are not intended for use in preparing specifications.

| Test | Property | Unit | Result |
|---|---------------------------------|----------|-----------|
| | Cure system | | Alkoxy |
| | Application temperature | °C | +5 to +40 |
| CTM ¹ 97B | Specific gravity | | 1.50 |
| CTM 364C | Extrusion rate | g/minute | 220 |
| CTM98B | Skin-over time (23°C, 50% R.H.) | minutes | 20 |
| CTM 95A | Tack-free time (23°C, 50% R.H.) | minutes | 30 |
| CTM 663A Cure rate (23°C, 50% R.H.) | | | |
| | 1 day | mm | 2.0 |
| | 3 days | mm | 4.0 |
| 2 mm thickness S2 dumb-bells (ISO² 37/DIN³ 53 504) | | | |
| CTM 137A | Modulus 100% | MPa | 0.45 |
| CTM 137A | Tensile strength | MPa | 1.9 |
| CTM 137A | Elongation at break | % | 700 |
| 12x12x50 mm size T.A. joint (ISO 8339/DIN 2-8339) | | | |
| CTM 677 | Modulus 100% | MPa | 0.35 |
| CTM 677 | Tensile strength | MPa | 0.75 |
| CTM 677 | Elongation at break | % | 380 |
| CTM 99E | Hardness (Shore A) | | 29 |
| ISO 7389 | Elastic recovery | % | > 90 |
| ISO 9047 | Joint movement capability | % | ± 50 |

¹CTM: Corporate Test Method, copies of CTMs are available on request.

²ISO: International Standardization Organization

³DIN: Deutsche Industrie Norm

TECHNICAL SPECIFICATIONS AND STANDARDS

- Conforms to SNJF
- ISO 11600-F&G-25LM
- DIN 18540 Class F
- EN 15651 - CE MARK



HOW TO USE

Surface preparation

Ensure that surfaces to be sealed are clean, dry, sound and grease-free. Clean non-porous surfaced with DOWSIL™ R40 Universal Cleaner, and dry thoroughly with a clean, lint-free cloth before application of sealant. Porous substrates such as concrete, brickwork, mortar, etc. must be mechanically cleaned of loose particles using a steel brush, sanding disc or any similar means.

Note: When using any solvent, always provide adequate ventilation. Avoid heat, sparks and open flames. Use solvent resistant gloves. Observe and follow all precautions listed on solvent container label.

Masking

Areas adjacent to the joints should be masked with tape to prevent contamination of the substrates and to ensure a neat sealant line. Masking tape should be removed immediately after tooling.

Priming

Primers are not usually required but might be needed for some specific substrates for maximum adherence. Please contact us for technical assistance.

Back-up materials

Where back-up material is required, closed cell polyethylene backer rod is recommended. Back-up materials provide back pressure and avoid three

sided adhesion that limits sealant movement capability.

Finishing

The joint should be tooled within 5 minutes of application to ensure good contact between the sealant and the substrate. Tooling of the sealant also gives a smooth, professional finish.

Clean-Up

Excess sealant may be cleaned off tools and non-porous surfaces whilst in an uncured state using DOWSIL R40 Universal Cleaner. If sealant is misapplied to porous substrates, it should be left until it is just cured and then removed by peeling, cutting or other mechanical means. Care should be taken not to damage plastic or coated surfaces.

JOINT DESIGN

The sealant joint width should be designed to accommodate the movement capability of the sealant. When designing joints using DOWSIL 791 Silicone Weatherproofing Sealant, the minimum width should be 6 mm. For joints between 6–12 mm wide, a seal depth of 6 mm is required. For joints above 12 mm wide, a width to depth ratio of 2:1 should be used. In situations where fillet joints are needed, a minimum of 6 mm sealant bite to each substrate is recommended. For joint dimensions with a width greater than 25 mm or a depth greater than 15 mm, please contact your regional service centers for technical assistance.

Figure 1: Deep joint

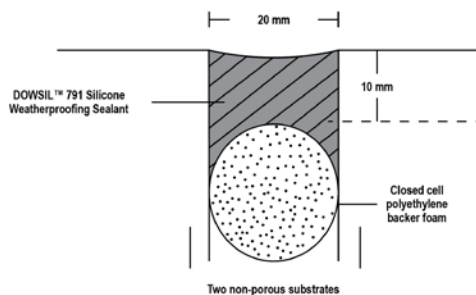


Figure 2: Shallow joint

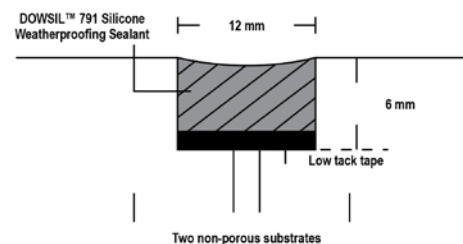
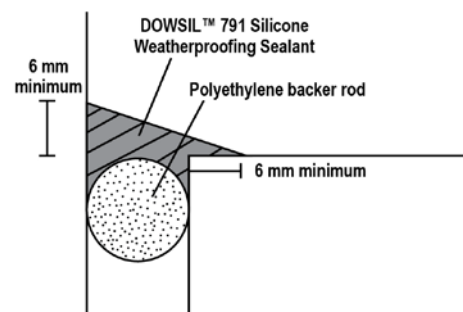


Figure 3: Fillet joint



HANDLING

PRECAUTIONS

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. 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 ON THE DOW WEBSITE AT WWW.CONSUMER.DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

USABLE LIFE AND STORAGE

DOWSIL 791 Silicone
Weatherproofing Sealant should be stored in cool and dry conditions.

When stored at or below 30°C in the original unopened containers,
DOWSIL 791 Silicone
Weatherproofing Sealant has a usable life of 12 months from the date of production.

PACKAGING INFORMATION

DOWSIL 791 Silicone
Weatherproofing Sealant is supplied in 310 ml cartridges and 600 ml sausages.

COLORS

DOWSIL 791 Silicone
Weatherproofing Sealant is available in a broad range of colors. Please refer to the color chart for different options.

LIMITATIONS

Do not use DOWSIL 791 Silicone Weatherproofing Sealant on bituminous substrates, substrates based on natural rubber, chloroprene or EPDM or on building materials and flexible plastics which might bleed oils, plasticizers or solvents. Do not use DOWSIL 791 Silicone Weatherproofing Sealant in a totally confined space because the sealant requires atmospheric moisture to cure. DOWSIL 791 Silicone Weatherproofing Sealant is not recommended for use on submerged joints or in joints where physical abuse or abrasion is likely to occur. Bleeding can occur on porous substrates such as concrete, marble, granite or other natural stones. On sensitive substrates, specific testing should be carried out.

This product is not suitable for areas where food contact is likely.

DOWSIL 791 Silicone
Weatherproofing Sealant is not recommended for structural glazing or insulated glazing applications.

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 has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.

For further information, please see our website, www.consumer.dow.com or consult your local Dow representative.

LIMITED 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 our products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

Dow's sole warranty is that our products will meet the 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.

TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, DOW SPECIFICALLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY.

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