



Technical Data Sheet

DOWSIL™ 791 Silicone Weatherproofing Sealant

Description

Neutral, one-part silicone sealant

Sustainability Attribute:

Uses / Applications

- DOWSIL™ 791 Silicone Weatherproofing Sealant is a specified, premium performance weather sealing product specifically designed for general glazing and weather sealing in curtain wall and building facades.



Composition

- One-part, neutral-cure, RTV silicone sealant

Benefits

- Ideal for expansion, connection, perimeter and other movement joints
- Neutral cure – suitable for use on coated glass, galvanized steel, masonry and other porous and non-porous substrates
- Extension/compression movement capability of up to ± 50 percent of the original joint width
- Excellent weatherability, virtually unaffected by sunlight, rain, snow, ozone
- Excellent unprimed adhesion to a wide variety of construction materials and building components
- Ease of application – ready to use as supplied
- Excellent rheology, low string upon gunning

Typical Properties

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

| Test ¹ | Property | Unit | Result |
|--|---------------------------------------|-------------|--------|
| Uncured – As Tested at 50% RH and 23°C (73°F) | | | |
| ASTM C639 | Flow (Sag or Slump) | inches (mm) | 0 |
| ASTM C1183 | Extrusion Rate | g/minute | 210 |
| | Working Time | minutes | 20 |
| ASTM C679 | Tack-free Time, 77°F, 50% RH | minutes | 45 |
| | Curing Time at 77°F (25°C) and 50% RH | days | 7–14 |
| | VOC Content ² | g/L | 45 |
| | Application Temperature | °C | 4–40 |

1. ASTM – American Society for Testing and Materials.

2. Based on South Coast Air Quality Management District of California. Maximum VOC is listed both inclusive and exclusive of water and exempt compounds.

Typical Properties (Cont.)

| Test | Property | Unit | Result |
|---|-----------------------------|------------------|-------------|
| | Specific Gravity | | 1.51 |
| As Cured – After 21 Days at 50% RH and 25°C (77°F) | | | |
| ASTM C661 | Durometer Hardness, Shore A | points | 25–30 |
| ASTM C794 | Peel Strength | lb/in (kg/cm) | 30 (5.4) |
| ASTM D624 | Tear Strength Die B | KN/m | 9.0 |
| ASTM C719 | Joint Movement Capability | % | ±50 |
| | Service Temperature | °C | -50–150 |
| ASTM C1135 | Tensile Adhesion Strength | | |
| | At 100% Extension | Psi (MPa) | 58 (0.40) |
| | Elongation at Break | % | 430 |
| | Ultimate Tensile Strength | Psi (MPa) | 120 (0.83) |

Description

DOWSIL™ 791 Silicone Weatherproofing Sealant is a one-part, non-sag neutral- cure sealant which easily extrudes and cures at ambient temperature by reaction with moisture in the air to form a durable, flexible silicone rubber seal.

How to Use

Joint Preparation

Clean all joints removing all foreign matter and contaminants such as grease, oil, dust, water, frost, surface dirt, old sealants or glazing compounds and protective coatings.

Application Method

Install backing material or joint filler, setting blocks, spacer shims and tapes. Mask areas adjacent to joints to ensure neat sealant lines. Primer is generally not required on non-porous surfaces, but maybe necessary for optimal sealant of certain porous surfaces. A test placement is always recommended. Apply DOWSIL™ 791 Silicone Weatherproofing Sealant in a continuous operation using a positive pressure. (The sealant can be applied using many types of air-operated guns and most types of bulk dispensing equipment. Before a skin forms (typically within 15 minutes), tool the sealant with light pressure to spread the sealant against backing material and the joint surfaces. Remove masking tape as soon as the bead is tooled.

Approvals/ Specifications

Meets the requirements of:

- ASTM C920 Type S, Grade NS, Class 50, Use NT, M, G, A
- ISO11600 F&G-25LM
- GB/T14683-2017
- KS F4910-2010 F-25LM
- EN15651-1/2:2012



SGBP 4335

Colors

This product is available in 8 colors: black, grey, dark gray, metal gray, bronze, limestone, precast white and white. Custom colors may be ordered to match virtually any substrate.

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 DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

Usable Life and Storage

When stored at or below 30°C (86°F) in the original unopened containers, DOWSIL™ 791 Silicone Weatherproofing Sealant has a usable life of 12 months from the date of manufacture. Refer to product packaging for “Use By” date.

Packaging Information

DOWSIL™ 791 Silicone Weatherproofing Sealant is available in 300 ml disposable plastic cartridges that fit ordinary caulking guns, and 500 ml sausages.

Limitations

DOWSIL™ 791 Silicone Weather-proofing Sealant is not approved for use as a structural sealant.

DOWSIL™ 791 Silicone Weather-proofing Sealant should not be used:

- In below-grade applications
- When surface temperatures exceed 50°C (122°F)
- On surfaces that are continuously immersed in water
- On building materials that bleed oils, plasticizers or solvents, green or partially vulcanized rubber gaskets or tapes
- On frost-laden or wet surfaces
- In totally confined joints (the sealant requires atmospheric moisture for cure)

Limitations (Cont.)

- If the sealant is intended to be painted (paints do not typically adhere to most silicone sealants)
- To surfaces in direct contact with food or other food-grade applications
- Natural stone unless substrate been approved or passed by ASTM C1248 non-stain test evaluation

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, dow.com or consult your local Dow representative.

Disposal Considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

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