Technical Data Sheet

DOWSIL™ 791 Silicone Weatherproofing Sealant

Neutral silicone 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%

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 (ISO[2] 37/DIN[3] 53 504)		
CTM 137A	Modulus 100%	MPa	0.45
CTM 137A	Tensile strength	MPa	1.9
CTM 137A	Elongation at break	%	700

1. CTM: Corporate Test Method, copies of CTMs are available on request.
2. ISO: International Standardization Organization.
3. DIN: Deutsche Industrie Norm.

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Typical Properties (Cont.)

Test	Property	Unit	Result
	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

Technical Specifications and Standards

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

Regulation or protocol	Conclusion	Version of regulation or protocol
French VOC régulations	A+	Regulation of March and May 2011 (DEVL1101903D and DEVL1104875A)
French CMR components	Pass	Regulation of April and May 2009 (DEVP0908633A and DEVP0910046A)
Italian CAM Edilizia	Pass	Decree 11 January 2017 (GU n.23 del 28-1-2017)
AgBB/ABG	Pass	Anforderungen an bauliche Anlagen bezOglich des Gesundheitsschutzes (ABG), Entwurf 31.08.2017/August 2018 (AgBB)
Belgian Regulation	Pass	Royal decree of May 2014 (C-2014/24239)
EMICODE	EC1 Plus	April 2019
Indoor Air Comfort	Pass	Indoor Air Comfort 6.0 of February 2017
Indoor Air Comfort GOLD	Pass	Indoor Air Comfort GOLD 6.0 of February 2017
Blue Angel (DE-UZ 123)	Pass	DE-UZ 123 for "Low-Emission Sealants for Interior Use", (January 2019)
BREEAM International	Exemplary lvl	BREEAM International New Construction v2.0 (2016)
BREEAM Norway	Pass	BREEAM-NOR New Construction v1.2 (2019)
CDPH	Pass	
M1	Pass	
Byggvarubedomningen	Accepted	

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How to Use

Surface Preparation

Ensure that surfaces to be sealed are clean, dry, sound and grease-free. Clean non-porous surfaces with DOWSIL™ R-40 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.

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Joint Design (Cont.)

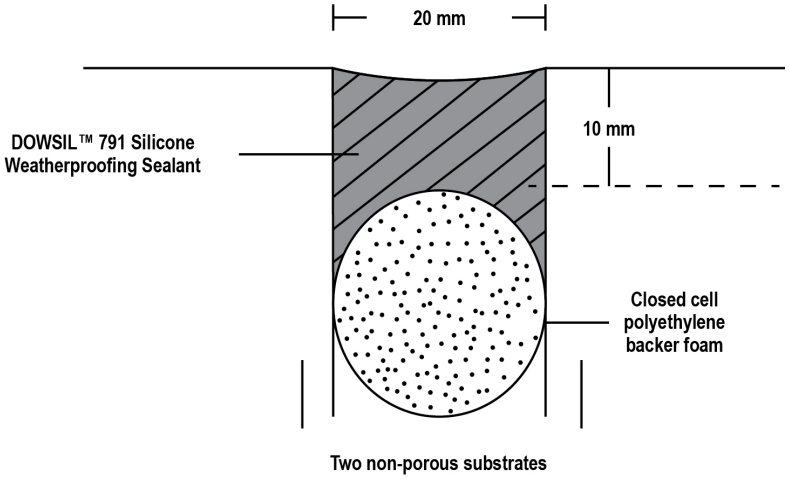


Figure 1: Deep Joint

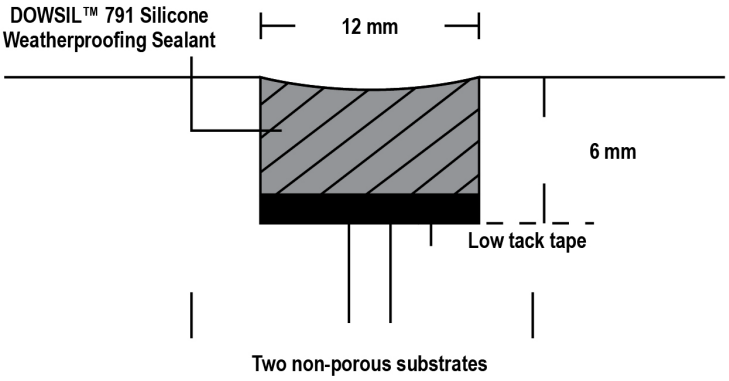


Figure 2: Shallow Joint

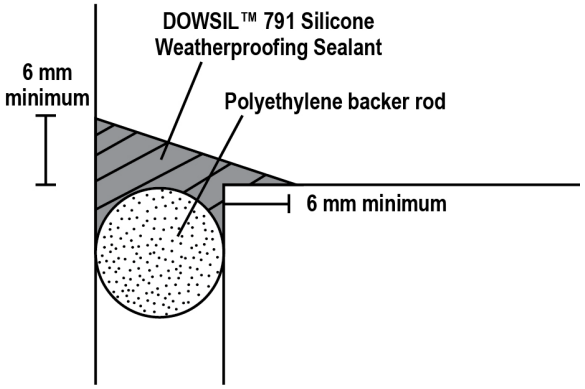


Figure 3: Fillet Joint

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Colors

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

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

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.

Limitations

Do not use DOWSIL™ 791 Silicone Weatherproofing Sealant on bituminous substrates, substrates based on natural rubber, choloroprene 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, 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.

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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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