Building Sealant Recommendations and Surface Preparation Guide for Weatherseal Applications

Weatherseal

Dow has a full line of high-performance primers for sealants. Primers are used to enhance adhesion.

	DOWSIL™ 756 SMS Building Sealant	DOWSIL™ 790 Silicone Building Sealant[1]	DOWSIL™ 791 Silicone Weatherproofing Sealant	DOWSIL™ 795 Silicone Building Sealant
Substrate		**Surface Prep**		
Concrete and Masonry				
Brick	Limited Data/Field Test	No Primer	1200 OS/Primer P	Primer P
Concrete	Field Test	No Primer	1200 OS/Primer P	Primer P
Mortar	Primer P	No Primer	Primer P	Primer P
EIFS[2]				
All Manufacturers[3]	Limited Data/Field Test	Limited Data/Field Test	Limited Data/Field Test	Limited Data/Field Test
Stone				
Granite	No Primer	No Primer	Limited Data/Field Test	1200 OS/Primer P
Travertine	Limited Data/Field Test	Limited Data/Field Test	Limited Data/Field Test	Limited Data/Field Test
Marble[4]	1200 OS/Primer P	Limited Data/Field Test	Limited Data/Field Test	Limited Data/Field Test
Limestone[8]	1200 OS/Primer P	Limited Data/Field Test	Limited Data/Field Test	Primer P
(Natural Stone) Sandstone[9]	Limited Data/Field Test	Limited Data/Field Test	Limited Data/Field Test	Primer P
Paints				
Acrylic Latex	Limited Data/Field Test	Limited Data/Field Test	Limited Data/Field Test	Limited Data/Field Test
Duracron	No Primer	Limited Data/Field Test	No Primer	1200 OS/Primer P
Polyester Powder Coating[7]	Limited Data/Field Test	1200 OS	No Primer	No Primer
Polyurethane	Limited Data/Field Test	Limited Data/Field Test	Limited Data/Field Test	Limited Data/Field Test
Polyvinyl Chloride (PVC)	Limited Data/Field Test	Limited Data/Field Test	Limited Data/Field Test	Limited Data/Field Test
Fluoropolymer				
Kynar®	No Primer	Limited Data/Field Test	No Primer	Primer-C OS
Duranar®	No Primer	Limited Data/Field Test	No Primer	Primer-C OS
Duranar Sunstorm®	Limited Data/Field Test	Limited Data/Field Test	No Primer	Primer-C OS
Fluropon®	Limited Data/Field Test	Limited Data/Field Test	Limited Data/Field Test	Primer-C OS

	DOWSIL™ 756 SMS Building Sealant	DOWSIL™ 790 Silicone Building Sealant[1]	DOWSIL™ 791 Silicone Weatherproofing Sealant	DOWSIL™ 795 Silicone Building Sealant
Substrate	**Surface Prep**			
Metals				
Aluminum – Chromate Conversion, Alodine®	No Primer	Limited Data/Field Test	No Primer	No Primer
Aluminum – Mill Finish	No Primer	1200 OS	1200 OS	1200 OS
Aluminum – Anodized	No Primer	1200 OS	No Primer	No Primer
Copper	Do Not Use	Do Not Use	No Primer	No Primer
Lead	Limited Data/Field Test	Limited Data/Field Test	Limited Data/Field Test	Limited Data/Field Test
Glass[6]				
Coated Glass	No Primer	1200 OS	No Primer	No Primer
Clear Glass	No Primer	No Primer	No Primer	No Primer
Steel				
Red Lead Primer	Limited Data/Field Test	Limited Data/Field Test	Limited Data/Field Test	Limited Data/Field Test
Weathered	Limited Data/Field Test	Limited Data/Field Test	Limited Data/Field Test	Limited Data/Field Test
Stainless	Limited Data/Field Test	Limited Data/Field Test	1200 OS	1200 OS
Galvanized	No Primer	1200 OS	No Primer	1200 OS/Primer P
Cold Rolled	Limited Data/Field Test	Limited Data/Field Test	Limited Data/Field Test	Limited Data/Field Test
Plastics				
PVC	Limited Data/Field Test	Limited Data/Field Test	1200 OS/Primer P	No Primer
Acrylic	Limited Data/Field Test	Do Not Use	Limited Data/Field Test	Limited Data/Field Test
Polycarbonate	Do Not Use	Do Not Use	Limited Data/Field Test	Limited Data/Field Test

Key: **1200 OS**: DOWSIL™ 1200 OS Primer; **Primer-C OS**: DOWSIL™ Primer-C OS; **Primer P**: DOWSIL™ Construction Primer P
Dow must test all materials for adhesion in structural applications.
Field adhesion tests must be performed at the jobsite to verify sealant adhesion.

[1] When using a primer with DOWSIL™ 790 Silicone Building Sealant, apply the primer before installing backer rod and allow the primer to dry. Cold weather and porous surfaces require additional drying time.
[2] Do not apply sealant to EIFS finish coat unless approved by EIFS manufacturer.
[3] Cleaning procedures for EIFS systems should be followed.
[4] The extremely porous nature of some marble, particularly white marble, can contribute to the potential for fluid migration into this substrate. Contact a Dow Specialist when working with marble.
[5] Laminated glass with polyvinyl buyvol (PVB) interlayer may delaminate up to 1/4" at the edges when in contact with a sealant.
[6] Do not use DOWSIL™ 790 Silicone Building Sealant on copper sputter coated glass.
[7] See *Organic Solvent Usage* in the *Dow Americas Technical Manual* (62-1112) for comment.
[8] Some limestone and other porous stone substrates contain iron and other impurities that can interact with DOWSIL™ 756 SMS Building Sealant, causing discoloration of the sealant and/or substrate. Prior to use, DOWSIL™ 756 SMS Building Sealant should be tested for compatibility with these substrates using water immersion.

This surface preparation guide is intended to aid in proper selection of surface preparation techniques and primers, if necessary, to gain adhesion that meets Dow's requirements. The suggestions in this guide are not blanket-approval recommendations; Dow requires all surface prep recommendations in this guide be verified by field or shop adhesion testing and documented prior to starting the project for each substrate/sealant combination. Failure to verify and document adhesion results may result in adhesion loss that is not covered by the Dow Warranty. Recommendations in this guide have been shown to be the best overall recommendations but do not cover every substrate for each material type or finish listed in this guide. Additionally, substrate manufacturers should be contacted to obtain recommendations for proper cleaning solvents for use with their materials. The entire *Weatherproofing* section of the *Dow Americas Technical Manual,* Form No. 62-1112, should be read and understood before proceeding with the evaluations. The following sections within the manual must be followed to verify and document adhesion:

- *Substrate Cleaning Procedure*
- *"Two Cloth" Cleaning Method*
- *Primer Application Procedure*
- *Field Adhesion Testing Procedure*
- *Field Adhesion Hand Pull Test Criteria*
- *Field/Shop Adhesion Log and Sealant Quality Control Logs*

Structural

All structural applications must be tested by the Dow test lab.

	DOWSIL™ 795 Silicone Building Sealant	DOWSIL™ 983 Structural Glazing Sealant	DOWSIL™ 995 Silicone Structural Sealant	DOWSIL™ 121 Structural Glazing Sealant
Substrate	**Surface Prep**			
Paints				
Acrylic Latex	Limited Data/Lab Test	Limited Data/Lab Test	Limited Data/Lab Test	Limited Data/Lab Test
Duracron	Primer-C OS	Primer-C OS	Primer-C OS	Primer-C OS
Polyester Powder Coating[1]	Primer-C OS, 1200 OS	Primer-C OS, 1200 OS	No Primer	Primer-C OS
Fluoropolymer				
Kynar®	Primer-C OS	Primer-C OS, 1200 OS	No Primer	Primer-C OS
Duranar®	Primer-C OS	Primer-C OS	Primer-C OS	Primer-C OS
Duranar Sunstorm®	Primer-C OS	Primer-C OS	Primer-C OS	Limited Data/Lab Test
Fluropon®	Primer-C OS	Primer-C OS	Primer-C OS	Limited Data/Lab Test
Metals				
Aluminum – Chromate Conversion, Alodine®	No Primer, 1200 OS	No Primer, 1200 OS	1200 OS	1200 OS
Aluminum – Anodized	No Primer	No Primer, 1200 OS	1200 OS	1200 OS
Glass – Surface to be Glazed to				
Clear	No Primer	No Primer	No Primer	No Primer
Float	No Primer	No Primer	No Primer	No Primer
Laminated[2]	No Primer	No Primer	No Primer	No Primer
Plate	No Primer	No Primer	No Primer	No Primer
Tinted	No Primer	No Primer	No Primer	No Primer
Ceramic Frit Coating	No Primer	No Primer	No Primer	No Primer
Reflective Glass	No Primer	No Primer	No Primer	No Primer
Low E High (T) Glass	No Primer	No Primer	No Primer	No Primer

Key: **1200 OS**: DOWSIL™ 1200 OS Primer; **Primer-C OS**: DOWSIL™ Primer-C OS; **Primer P**: DOWSIL™ Construction Primer P; NA: Not applicable
Dow must test all materials for adhesion in structural applications.
Field adhesion tests must be performed at the shop or jobsite to verify sealant adhesion.

[1] See *Organic Solvent Usage* in the *Dow Americas Technical Manual* (62-1112) for comment.
[2] Laminated glass with polyvinyl buyvol (PVB) interlayer may delaminate up to 1/4" at the edges when in contact with a sealant

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- *Substrate Cleaning Procedure*
- *"Two Cloth" Cleaning Method*
- *Primer Application Procedure*

For more information

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