

# Weathersealants and durability: The silicone advantage

**DOW**

®

**DOW**SIL™



# Why specify silicone weatherproofing sealants?

The successful performance of a building facade is not only defined by its ability to permit and accommodate differential thermal and structural movement in a building; there are other important performance criteria that should be expected from weatherproofing sealants:

- Prevention of water and air intrusion
- Maintenance and/or enhancement of aesthetics
- Enable design versatility
- Long-term movement capabilities and long life expectancy
- Superior durability in outdoor UV exposure
- Provide sound insulation
- Maintain the overall performance of a building and protect the building occupants

For new construction or building renovation, silicone sealants from Dow are unrivaled because they:

- Protect buildings typically three times longer than organic materials in the same applications, thus avoiding premature and costly renovations
- Have proven performance with successful track records in a range of diverse applications
- Provide outstanding life-cycle value
- Ensure all-weather application and performance, are more durable than organic-based materials, and are virtually unaffected by ultraviolet (UV) light
- Stay flexible and maintain adhesion, even while being stretched or compressed
- Resist cracking, splits or tears and don't harden or fade
- Can be applied easily over a wide temperature range

## Silicones versus polyurethanes – Visible differences

Silicone and organic materials are as different chemically as night and day. Organics typically have less resistance to UV exposure, ozone, rain, snow and extreme temperatures. They can harden over time and crack, chalk, "alligator" and lose adhesion, often leading to water leakage. Chemical reversion is another phenomenon in which organic polyurethane loses its cured properties and reverts to a substance with the softness of chewing gum. The differences between silicones and organics are the difference between long-term value and premature failure. Silicones prevail.



Polyurethane sealant cracking



Polyurethane sealant alligating



DOWSIL™ Silicone Sealant and a leading polyurethane sealant after 2,500 hours of humidity and UV exposure in extended weathering, heat and stability tests



## Don't compromise on performance

Buildings have a life of their own. They strain against winds, fend off rain and snow, and expand and contract with daily temperature changes and seasonal heat and cold. Building envelopes are the “skins” that must endure constant assault and the cumulative result of even gentle conditions. Silicone weathersealing materials from Dow minimize nature's toll on building envelopes.

## DOWSIL™ Silicone Weatherproofing sealant range

### DOWSIL™ 790 Silicone Building Sealant

DOWSIL™ 790 Silicone Building Sealant is a one component, ultra-low modulus, neutral-cure silicone sealant. It offers outstanding adhesion to masonry and is well-suited for weathersealing of sensitive substrates such as natural stone. The sealant forms a durable, flexible, watertight bond with unprimed adhesion to many common building materials, including combinations of stone, concrete and masonry.

### DOWSIL™ 791 Silicone Weatherproofing Sealant

A specified, premium-performance weatherproofing sealant, designed for the weathersealing of structurally glazed facades, planar systems, general glazing, curtainwalling, and building facades constructed of brick and traditional building products.

### DOWSIL™ 813C Construction & Concrete Silicone Sealant

A one-part, low-modulus silicone sealant suitable for sealing a range of porous and non-porous surfaces, including concrete, masonry, brick, PVC-U, aluminum, wood, glass and glazed surfaces. It also is suitable for expansion joints.

### DOWSIL™ FIRESTOP 700 Sealant

A one-part, low-modulus silicone sealant designed for weathersealing of curtainwalling, building facades and expansion joints where a fire rating is required. It also is suitable for use in penetration sealing systems where pipes and cables pass through fire-rated structures.

For application versatility, durability, aesthetics and value, silicones outperform organics.

# For more information



Learn more about Dow's full range of High Performance Building solutions by visiting us online at [dow.com/construction](http://dow.com/construction).

Dow has sales offices, manufacturing sites and science and technology laboratories around the globe. Find local contact information at [dow.com/contactus](http://dow.com/contactus).



**Dow High Performance Building website:**  
[www.dow.com/construction](http://www.dow.com/construction)



**Contact Dow High Performance Building:**  
[www.dow.com/customersupport](http://www.dow.com/customersupport)



**Visit us on Twitter**  
[@DowHPBuilding](https://twitter.com/DowHPBuilding)



**Visit us on LinkedIn**  
[Dow High Performance Building](https://www.linkedin.com/company/dow-high-performance-building)

Images: Cover – dow\_40423221394; Page 2 – dow\_40355050336, dow\_40354024996; Page 3 – dow\_45583076851

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

NOTICE: No freedom from infringement of any patent owned by Dow or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other government enactments. The product shown in this literature may not be available for sale and/or available in all geographies where Dow is represented. The claims made may not have been approved for use in all countries. Dow assumes no obligation or liability for the information in this document. References to "Dow" or the "Company" mean the Dow legal entity selling the products to Customer unless otherwise expressly noted. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.

®™ Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

© 2020 The Dow Chemical Company. All rights reserved.

2000003266

Form No. 62-1438-01-1020 S2D