DOWSIL™ Silicone Sealants Frequently Asked Questions

Here are answers to some of the most frequently asked questions we've received about DOWSIL™ and XIAMETER™ silicone sealants. Please note that because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer tests to ensure that the products are safe, effective and fully satisfactory for the intended end-use.

What methods can be used to promote adhesion?

Cleaning: Using the appropriate solvent and recommended two-cloth wipe

Chemical methods: Primers

Surface energy alteration: Corona discharge treatment, plasma treatment, flame treatment

Physical methods: Abrasion on some surfaces (roughing the surface to increase surface area for adhesion)

How should we apply primer?

Dow offers a specific primer that must be applied in a very thin or monolayer in order to promote maximum adhesion. Open the container and pour a small amount onto a clean, lint-free cloth, then wipe it across surface area to be primed. Let the primer dry and react on the surface for 30 minutes. If any white powder forms, then it should be wiped off with a clean, dry, lint-free cloth. Properly applied primer should form a clear (monolayer) on the surface without any excess. Remember, this monolayer primer reacts and forms a bond to the surface. Allow the primer to dry and cure for 60 to 90 minutes before applying the sealant. Always read the product instructions for more details and always reseal the container when not being used to ensure continued quality.

Can primer be used in lieu of substrate cleaning?

No, the surface must always be properly cleaned, regardless of primer use.

The primer being dispensed looks cloudy and white; is there something wrong?

Yes, if cloudy then it should be discarded. Opened containers will eventually react with moisture in the air and form a cloudy appearance. Always use fresh, clear primer.

How do you prepare substrate surfaces in advance of the sealant (or primer)?

Most substrate surfaces should be cleaned using the recommended two-cloth solvent cleaning method to ensure a clean, oil-free, dry surface is obtained. For difficult-to-stick-to surfaces, the adhesion can be improved using a primer. Some surfaces may require abrasion to remove embedded dirt, but be careful not to damage the surface. Check with the substrate supplier.

Is sealant tooling recommended?

Yes, sealant tooling is always recommended in order to coat or wet the substrate surface, which is needed to promote maximum bonding. The common procedure involves properly filling the joint first and then dry tooling the sealant by pressing and pulling a round tipped spatula across the sealant surface. This step forces sealant into joint surfaces and helps removes air pockets or voids at the bond line. Some will tool by wearing a rubber glove and tooling the joint with their finger. Others may use tongue depressors or other similar tools.

What is a formed-in-place gasket (FIPG)?

FIPG materials are dispensed onto one surface and assembled onto the mating part while the sealant is still wet. After a sufficient cure period, the gasket joint relies on the adhesion of the material to both parts of the assembly to seal.

Can DOWSIL™ silicone sealant/adhesives be used underwater?

We do not recommend our silicone sealants/adhesives for continuous underwater use.

Will your sealants adhere to bond-resistant plastics such as polyethylene, polypropylene, urethane, acrylic or PTFE?

Normally, no, silicone sealants generally will not adhere to these substrates. However, utilizing one or more adhesion improvement techniques – chemical treatment, roughing the surface, or corona treating the surface – may help. Always keep in mind that even though they may not have great adhesive strength to these substrates, there might be enough adhesion for a particular application. Test the silicone sealant in your application prior to use.

Will silicones break down from UV light and ozone?

Silicones in general demonstrate great UV and ozone stability.

Will silicone sealants affect surfaces to be painted?

If possible, you should always pre-paint the surface prior to applying a silicone sealant. Painting problems can occur if in direct contact with the silicone. Use our DOWSIL™ OS-2 Silicone Cleaner and Solvent to clean off any uncured residue and perform a test patch with the paint to check out the effectiveness. Most paint does not typically adhere to silicone sealant/adhesives, so avoiding contact with surfaces to be painted is recommended.

Would you recommend DOWSIL™ 732 Multi-Purpose Sealant or any other acetoxy cure sealant for use with concrete?

No, DOWSIL™ 732 Multi-Purpose Sealant's byproduct is acetic acid (low pH) and masonry applications are basic (high pH). The acid/base reaction forms salts, which will prevent adhesion between the DOWSIL™ 732 Multi-Purpose Sealant and the concrete.

Is there a sealant that can withstand higher temperatures than normal silicones?

DOWSIL™ 732 Multi-Purpose Sealant can withstand intermittent temperatures up to 400°F. DOWSIL™ 736 Heat Resistant Sealant tolerates intermittent temperatures up to 600°F.

How can I remove a cured sealant?

Cured silicone can be removed from a surface with a sharp blade if the cured silicone material is accessible. If it is difficult to cut through, solvents may be used which will soften the cured sealant and make it easier to cut through. Solvents that may soften cured silicone would include isopropanol alcohol (IPA), toluene, xylene, naptha, or mineral spirits. DOWSIL™ OS fluids can also be used to help soften cured silicone and/or remove silicone residue after it has been removed mechanically from a surface. DOWSIL™ OS fluids will generally be a lower-VOC option than standard solvents as well.

How long will silicone sealants last outdoors? Will they embrittle?

Generally, silicone sealants will remain flexible and retain performance properties (durometer, tensile, elongation and modulus) if the product is applied in accordance with Dow's general requirements.

Will cured silicone sealants yellow?

Most do not yellow. Some oxime sealants, which contain amines, will yellow and should not be used in places where the yellowing will be seen. Occasionally, other sealants can be discolored by hard coats used on plastics. Some rubbers have plasticizers that will leach out and discolor adjacent, light-colored sealants.

Can sealants be used after their use by date?

We do not recommend use of our products beyond their usable life.

Can your sealants be diluted for spraying or dipping?

As a general rule, you can dilute sealants with DOWSIL™ OS fluids or naptha. DOWSIL™ 236 Dispersion is a dispersed sealant.

Can silicone sealants be exposed to harsh chemicals?

Total immersion with harsh chemicals such as strong acids, bases solvents, and fuels is not recommended for most silicone sealants. However, splash contact is typically acceptable, even with harsh chemicals. Again, test for suitable performance in your application. Try DOWSIL™ 730 FS Solvent Resistant Sealant for most applications. Be sure to test it for fitness in your application.

For more information

Learn more about Dow's full range of building solutions, including service and support, at **dow.com/dowbuildingscience.**

Dow has sales offices, manufacturing sites and science and technology laboratories around the globe. Find local contact information at **dow.com/contactus.**

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