Dow Corning® Silicone Sealants

Designed for Industrial Assembly and Maintenance

Silicon-based Dow Corning sealants last longer and are more versatile than most organic polymer sealants. They are durable, one part RTV sealants, cure at room temperature to a tough, rubbery solid with exceptional performance characteristics, and meet a wide variety of your industrial bonding and sealing needs.

Features of Dow Corning silicone sealants include:

- **Stability over a wide temperature range** – When fully cured, our products can be used at temperatures ranging from -65° to 350°C.
- **Weather resistance** – High resistance to UV rays, radiation and weather prevents our products from hardening, cracking, crumbling, drying and becoming brittle.
- **Chemical stability** – Our sealants do not readily degrade even under long-term exposure to many chemicals and atmospheric pollutants.
- **Good bond strength** – Our products provide good adhesion to a wide variety of industrial materials, including glass, ceramics, and wood masonry, painted surfaces, and many metals and plastics.
- **Electrical properties** – Designed for a variety of applications, our products can be used in various electrical and electronic applications, including devices that are thermally cycled over a wide temperature range.
- **Low Flammability** – In fire conditions, silicone adhesives/sealants are reluctant to burn. Many products comply with UL flammability standards.

When you specify an assembly and maintenance product from Dow Corning, you receive a solution backed by the world leader in silicone technology with more than 60 years of expertise and innovations.

Innovative Technology

Reactive hot-melt silicone technology provides high green strength which can increase productivity, improve quality and reduce costs in industrial assembly applications.

Dow Corning® HM-2500 Assembly Sealant is a patented, neutral-cure reactive hot-melt silicone that is ideal for automated applications in the manufacturing of various components.

When used with standard hot-melt dispensing equipment and an automated robot, HM-2500 becomes part of the productivity solution that enables parts to be produced faster, better, and more economically.

- **Immediate Green Strength** – move parts efficiently from one processing step to the next
- **No "Hold Time" Required** – ship parts as fast as you make them
- **Long Pot Life, Long Open Time** – material is not heat activated and, therefore, does not cure in line whereby the long open time ensures flexibility in the assembly process
- **Aggressive Adhesion** – excellent primerless adhesion to metals, plastics, wood, and paints
- **Crystal Clear** – ultra clear or select colors
- **Worker Friendly** – non-hazardous formulation, very low odor, very low voc (volatile organic compound)
- **Neutral-Cure 100% Silicone Chemistry** – cures to flexible, weather-resistant, silicone elastomer with outstanding durability and UV resistance

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Substrate Preparation

Although Dow Corning silicone sealants possess excellent bond strength, maximum adhesion is only attained on surfaces which are clean and dry. Contaminants, such as dirt, grease, water, tar or rust act as release agents and prevent the formation of durable bonds.

It is strongly recommended, therefore, that wet or unclean surfaces be properly prepared before sealants are applied.

- Wipe contaminated surface with a clean, oil-free cloth.
- Rewipe surface with a suitable cleaner or industrial solvent, such as IPA, mineral spirits, naphtha or ketones. Note: Do not clean surface with detergent or soap. Soap residue may act as release agent.
- Rough rubber surfaces with sandpaper. Make a spot check to determine the adhesion of sealants for each application. Bond strength will increase as the sealant cures.

How to Apply

Apply Dow Corning adhesives/sealants to one of the prepared surfaces, then quickly cover with the other substrate to be bonded. On exposure to moisture, the freshly applied material will "skin over" in about 5-10 minutes (depending on the product) at room temperature and 50% relative humidity. Any tooling should be completed before this skin forms. The surface is easily tooled with a spatula.

Use of Primer

For maximum adhesion, the use of Dow Corning primer is recommended. After solvent cleaning, a thin coat of Dow Corning primer is applied by wiping, brushing or spraying. At normal room temperatures and humidity conditions (room temperature, 50% relative humidity), the primer should be allowed to air dry from 5 to 30 minutes. The primer cures in contact with air moisture, low humidity will necessitate longer drying time.

The required drying time for a specific area should be determined prior to use. Primer which was allowed to cure extensively will not promote adhesion anymore. As a general rule, drying time of more than 6 hours at normal temperatures and humidity should be avoided.

Cure Time

After skin formation, cure continues inward from the surface. In 24 hours (at room temperature and 50% relative humidity) Dow Corning adhesive/sealant will cure to a depth of about 3mm. Very deep sections, especially when access to atmospheric moisture is restricted, will take longer to cure completely. Cure time is extended at lower humidity levels.

As the sealants cure by reaction with moisture in the air, keep the container tightly sealed when not in use. A plug of used material may form in the tip of a tube or cartridge during storage. This is easily removed and does not affect the remaining contents.

Compatibility

Some Dow Corning adhesives/sealants release a small amount of acetic acid during cure. This may cause corrosion on some metallic parts or substrates, especially in direct contact or when the cure is carried out in a totally enclosed environment which would not allow cure by-products to escape.

Health and Environmental Information

To support Customers in their product safety needs, Dow Corning has an extensive Product Stewardship organization and a team of Product Safety and Regulatory Compliance (PS&RC) specialists available in each area.

For more information please see our website, **www.dowcorning.com** or consult your local Dow Corning representative.

How To Contact Us

For more than 60 years, OEM designers, maintenance and materials engineers around the world have trusted Dow Corning brand for performance and expertise to solve or prevent sealant problems. Dow Corning solutions are available though a distributor network of more than 3000 channel partners around the world. To learn more about our extensive product and service offerings, visit **www.dowcorning.com** or email **industrial@dowcorning.com**.

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We help you invent the future.™

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Dow Corning®

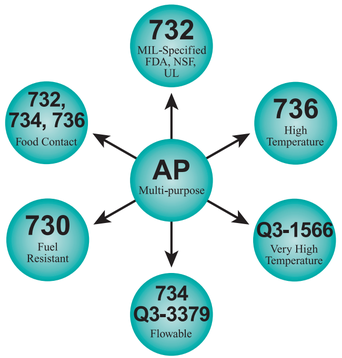
Silicone Sealants *for* Industrial Assembly *and* Maintenance

European Selection Guide

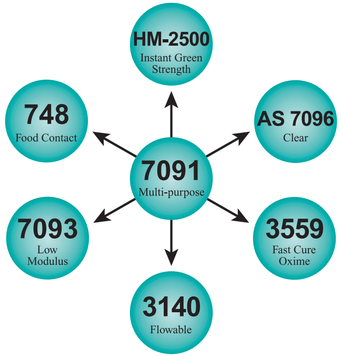
Regardless of how harsh the environment or how extreme the temperature, we are sure to have a Dow Corning® sealant to meet your needs.

This guide will assist you in selecting the best sealant for your specific application needs. A technical data sheet is available for all products.

Selection Guide – Acetoxy Cure Products



Selection Guide – Neutral Cure Products



Acetoxy

Dow Corning® Silicone AP Adhesive/Sealant

- **Primary Use** – General purpose bonding and sealing. Good adhesion to many substrates.
- **Applications** – Sealing and bonding of appliances parts, making formed-in-place gaskets for compressors, gearboxes, pumps.[1]

Dow Corning® 730 Solvent Resistant Adhesive/Sealant

- **Primary Use** – Sealing and bonding where resistance to fuels, oils and solvents is required.
- **Applications** – Assembling and repairing fuel lines and tanks; bonding components exposed to fuels, oils, solvents; making formed-in-place gaskets for chemical compressors, fluid-filled distributors and transformers; repairing rubber linings exposed to corrosive conditions; sealing pipe joints on lines carrying corrosive chemicals.[1]

Dow Corning® 732 Multi-Purpose Sealant

- **Primary Use** – General purpose bonding and sealing; making formed-in-place gaskets. Complies with FDA, NSF and MIL-Specifications.
- **Applications** – Sealing flashing, vents, flues, gutters, marine cabins and windows, electrical boxes; caulking joints in sheet metal stacks, ductwork; bonding appliance parts, signs and sign letters; adhering auto trim, appliance trim, name plates; making formed-in-place gaskets for compressors, gearboxes, pumps.[1]

Dow Corning® 734 Flowable Adhesive/Sealant

- **Primary Use** – To fill voids, cracks, crevices; conformal coating for connections and battery terminals.
- **Applications** – Coating mechanical devices; making formed-in-place gaskets for compressors, gearboxes, pumps; potting electrical terminals; sealing ammunition fuses, trailers, truck cabs.[1]

Dow Corning® 736 Heat Resistant Sealant

- **Primary Use** – Sealing and bonding applications exposed to temperatures as high as 315°C.
- **Applications** – Sealing industrial ovens and boilers, fired heaters, access doors, moving oven belts, drying ovens, bonding appliance parts, electrical and electronic equipment.[1]

Dow Corning® Q3-1566 Heat Resistant Adhesive/Sealant

- **Primary Use** – Sealing and bonding applications exposed to temperatures as high as +275°C (with short peaks up to +350°C).
- **Applications** – Sealing industrial ovens and boilers, domestic ovens, fired heaters, access doors, ceramic hobs, cookers, oil pans, flanges in equipment used in chemical plants.[1]

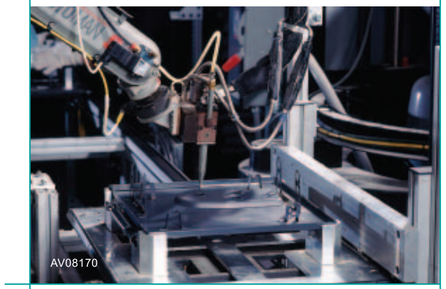
Dow Corning® Q3-3379 Flowable Adhesive/Sealant

- **Primary Use** – Sealing and bonding applications exposed to temperatures as high as + 250°C (with short peaks up to +275°C) and where a flowable product is required.
- **Applications** – Sealing steam irons, domestic and industrial ovens, bonding appliance parts.[1]

Oxime

Dow Corning® 3559 Neutral Cure Sealant

- **Primary Use** - General manufacturing assembly operations where relative quick cure and good adhesion are important.
- **Applications** - OEM and assembly applications; substitute for mechanical fasteners on appliances; adhering plastic moldings to plastic substrates; waterproofing components, housings of electrical devices.[1]



Alkoxy

Dow Corning® 7091 Adhesive/Sealant

- **Primary Use** – General purpose bonding and sealing; making formed-in-place gaskets.
- **Special Characteristics** – Strong unprimed adhesion to commonly used materials including enameled and painted steel, aluminium, ceramic and glass as well as many engineering plastics.
- **Applications** – Applications that require a strong but flexible bond, such as when bonding materials with different thermal expansion rates, e.g. glass to metal or glass to plastic.[1]

Dow Corning® 7093 Adhesive/Sealant

- **Primary Use** – General purpose bonding and sealing, Low modulus.
- **Applications** – Applications where a low modulus and neutral cure are required.[1]

Dow Corning® 7096 Adhesive/Sealant

- **Primary Use** – General purpose bonding and sealing, Translucent.
- **Applications** – Applications where a clear and neutral cure product is required.[1]

Dow Corning® 748 Noncorrosive Sealant

- **Primary Use** – Electrical sealing applications; food processing and transportation applications.
- **Applications** – Bonding and sealing electrical equipment, power and control connections, motors, cover plates, instrument lenses, regulators, junction boxes, control panels; sealing refrigerator and freezer liners.[1]

Dow Corning® 3140 RTV Coating

- **Primary Use** – Sealing and bonding applications where self leveling flow characteristics and non corrosive cure are required.
- **Applications** – Bonding and sealing electrical equipment, cables and connectors, coating of cover plates.[1]

Dow Corning® HM-2500 Assembly Sealant

- **Primary Use** – Assembly, bonding, sealing, gasket and other applications that require instant adhesion and high green strength
- **Special Characteristics** – 100% silicone, instant adhesion, ultra clear and cures to long lasting silicone sealant.
- **Applications** – Hot melt reactive sealant that works well in OEM and assembly applications, very good adhesion to most substrates without the need of a primer. With its instant adhesion, parts can be shipped out quickly yet has a long open time, long pot life, and low VOC (Volatile Organic Compounds).

Primers and Cleaners

Dow Corning® 1200 RTV Prime Coat

- **Primary Use** – Significantly improves the adhesion of silicone sealants, to a wide variety of challenging substrates.
- **Applications** – Improves the adhesion of silicone sealants, coatings and rubber to masonry, wood, granite, metals, glass, ceramics, plastics, rubbers and coatings.

Dow Corning® OS 1200 Primer

- **Primary Use** – Significantly improves the adhesion of silicone elastomers, silicone foams and adhesives/sealants.
- **Applications** – General purpose adhesion promoter. Formulated for low toxicity, i.e. not a health hazard according to European directive 88/379/EEG.

[1]Most paints will not adhere to sealant; not for underwater structural or adhesive applications; requires atmospheric moisture to cure. May stress crack some plastics; test before use.

[2]Estimated service temperatures based on product formulation and laboratory testing. Actual service temperature range is dependent on other factors including the specific application environment.

Cure Type	Dow Corning® Product	Special Features	Temperature Range [°C] (intermittent)*	Color(s)	Skin-Over Time [min.]	Tack Free Time [min.]	Extrusion Rate [g/min.] at 23°C	Viscosity [mPa·s] at 23°C	Durometer [Shore A]	Tensile [MPa]	Elongation [%]	Specific Gravity	Listing/ Specifications
Acetoxy	**Silicone AP**	Multi-purpose	-50 to +180	clear, white, grey, black	11	21	450	—	25	2.2	540	1.03	
	730	Solvent resistant	-65 to +200	white	5	25	420	—	37	2.3	240	1.40	
	732	Multi-purpose, FDA, UL, MIL	-60 to +180 (205)	clear, white, black	7	20	350	—	25	2.3	540	1.04	FDA 177.2600, UL94-HB, NSF51, NSF61, MIL-A-46106
	734	Flowable	-65 to +180	clear, white	7	13	—	45,000	27	1.5	315	1.03	FDA 177.2600, UL94-HB, NSF51 MIL-A-46106
	736	High temperature resistant	-60 to +260 (315)	red	10	17	390	—	26	2.4	600	1.04	FDA 177.2600, UL94-HB, NSF51 MIL-A-46106
	Q3-1566	Very high temperature resistant	-50 to +275 (350)	black	5	12	270	—	43	3.6	340	1.06	
	Q3-3379	High temperature resistant, Flowable	-50 to +250 (275)	red	8	20	—	73,500	34	3.2	290	1.30	
Neutral	**7091**	Multi-purpose	-55 to +180	white, grey, black	15	28	350	—	37	2.5	680	1.40	
	7093	Multi-purpose, Low modulus	-50 to +180	white, grey, black	15	28	210	—	30	1.7	700	1.50	
	AS 7096	Multi-purpose, Translucent	-50 to +150	clear	10	30	260	—	18	1.3	500	1.03	
	748	Multi-purpose, Food contact	-55 to +177	white	15	46	145	—	35	1.9	350	1.30	FDA 177.2600, UL94-HB, MIL-A-46106
	3140	Flowable	-50 to +180	clear	15	70	—	30,000	32	3.1	425	1.03	UL94 V-1, MIL-A-46146
	3559	Fast cure, High temperature resistant, Oxime cure type	-50 to +220	black	5	24	143	—	40	1.7	450	1.30	
	HM-2500	Immediate green strength, Alkoxy cure type	-32 to +93	clear	—	—	—	—	60	2.4	1000	1.06	

*Estimated service temperatures based on product formulation and laboratory testing. Actual service temperature range is dependent on other factors including the specific application environment. Refer to technical data sheet for each product for further details on properties and associated test methods to determine these