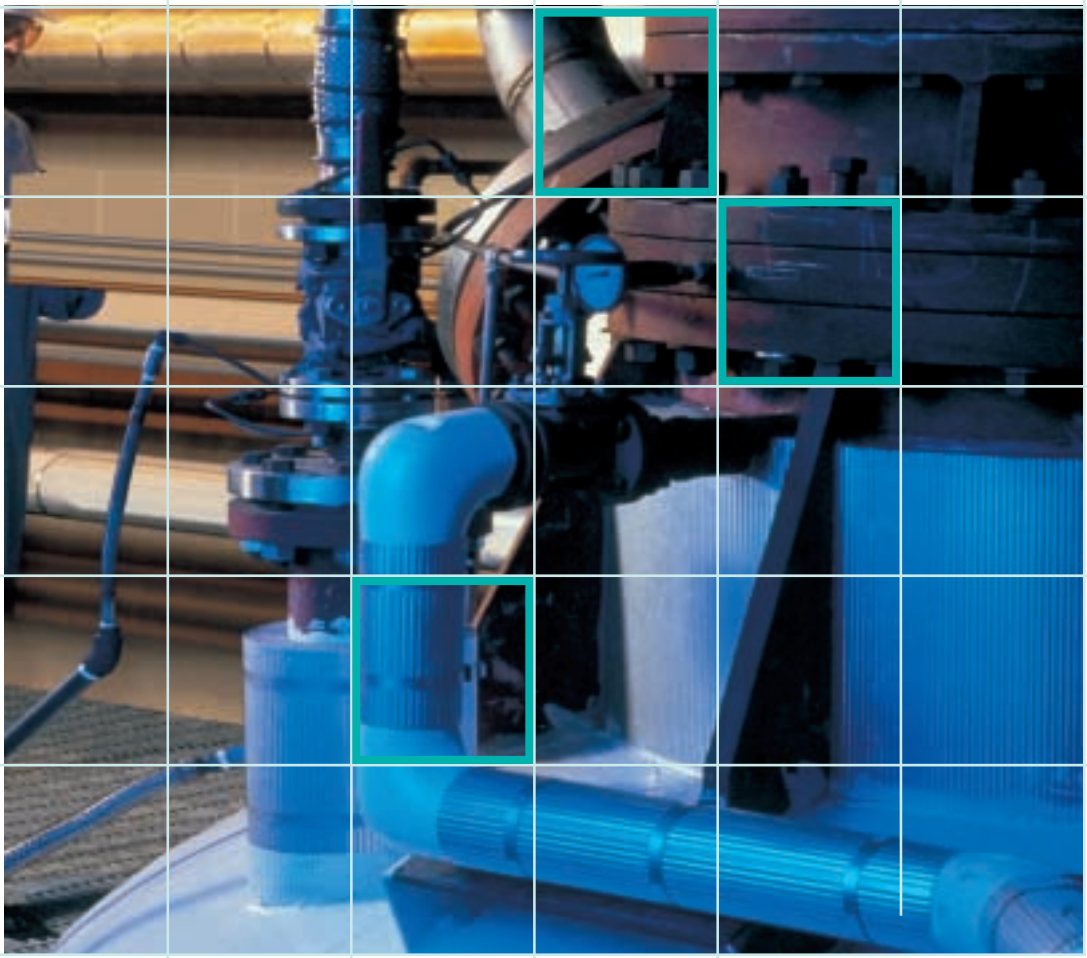
DOW CORNING® brand Silicone Sealants for Industrial Maintenance



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Selection Guide

DOW CORNING

DOW CORNING BRAND SILICONE SEALANTS - DESIGNED FOR INDUSTRIAL PERFORMANCE REQUIREMENTS

Silicone sealants from Dow Corning are designed to be the answer to your sealant problems. These products are versatile, durable and have exceptional performance characteristics. They are specially formulated for industrial use.

When choosing Dow Corning sealants, you are getting tough industrial sealants, not just modified consumer products. They are capable of performing many functions and stand up to tough demands for a variety of applications – including areas where organic material may struggle. Dow Corning silicone sealants bond, caulk, seal, fasten, insulate, protect and repair many types of materials. These products are virtually unaffected by weather, temperature extremes, chemicals and ageing, they offer a high level of performance even under the most severe operating conditions.

This guide will enable you to select the best suited sealant which matches your specific application needs. A technical data sheet is available for all products mentioned in the following tables. Please note application instructions on the last page.

PROPERTIES OF UNCURED MATERIAL

Dow Corning Sealant	Appearance	Color(s)	Skin over time (mins)	Usable life (months)	Corrosive	Odour
Acetoxy cure						
General purpose silicone adhesive/sealant						
Silicone AP	Non-slump paste	Clear, white, gray, black	11	27	yes	med
General purpose silicone adhesive/sealant (specified)						
732	Non-slump paste	White, black or clear	7	27	yes	med
Flowable silicone adhesive/sealant						
734	Flowable liquid	White or clear	7	24	yes	med
Temperature resistant silicone adhesive/sealant						
736	Non-slump paste	Red	10	30	yes	med
High temperature resistant silicone adhesive/sealant						
Q3-1566	Non-slump paste	Black	5	11	yes	med
Solvent resistant silicone adhesive/sealant						
730	Non-slump paste	White	5	18	yes	med
Alkoxy cure						
Clear neutral cure silicone adhesive/sealant						
7096	Non-slump paste	Translucent	6	18	no	low
Low modulus neutral cure silicone adhesive/sealant						
7093	Non-slump paste	White, black, gray	15	12	no	low
High performance neutral cure silicone adhesive/sealant						
7091	Non-slump paste	Black, white, gray	15	12	no	low

PROPERTIES OF CURED MATERIAL

Dow Corning Sealant	Specific gravity	Durometer Hardness (Shore A)	Tensile strength (MPa)	E-Modulus 100%(MPa)	Elongation at break (%)	Movement capability	Structural capability
Acetoxy cure							
Silicone AP	1.03	25	2.2	0.40	540	excellent	good
732	1.04	25	2.3	0.66	540	good	good
734	1.03	27	1.5	0.64	315	good	moderate
736	1.04	26	2.4	0.55	600	good	good
Q3-1566	1.06	43	3.6	1.38	340	moderate	excellent
730	1.41	37	2.3	1.23	240	moderate	good
Alkoxy cure							
7096	1.03	19	1.6	0.32	500	excellent	moderate
7093	1.5	30	1.7	0.43	700	excellent	moderate
7091	1.4	37	2.5	0.83	680	good	good

PRODUCT PROPERTIES

Dow Corning Sealant	Adhesion to			Temperature stability			Fluid resistance [1]			Compatibility with	
	Metal	Plastic	Glass	up to 150ºC	up to 180ºC	higher than 180ºC	Boiling water	Water-glycol (50-50) at 108ºC	Engine oil 10W-40 at 150ºC	*Molykote*® Metal Cleaner at RT	*Molykote*® BR2 plus grease at 100ºC
Acetoxy cure											
Silicone AP	***	**	***	***	***	*	***	***	*	*	***
732	*	**	***	***	***	**	***	***	*	*	***
734	*	*	***	**	**	N.R.	***	**	*	*	***
736	**	**	***	***	***	***	**	**	N.R.	*	***
Q3-1566	*	*	***	***	***	***	***	***	*	**	***
730	P.R.	P.R.	***	***	**	*	***	***	***	***	***
Alkoxy cure											
7096	**	**	***	**	*	N.R.	**	**	N.R.	**	*
7093	**	***	***	***	**	N.R.	**	***	*	**	*
7091	**	***	***	***	**	N.R.	**	**	*	**	*

***=recommended **=good *=can be used P.R.=primer recommended N.R.=not recommended

[1] if the contact area to the fluid is small, fluid resistance becomes less important

TYPICAL APPLICATIONS

Application		Corrosive	Flow	Adhesion to	Max. Temp.	Resistance to	Product
	Engine Sealing (e.g. oil pan)	not applicable	non-sag	Cast Aluminium	150ºC	Engine oil, grease	*Dow Corning* Silicone AP
	Flange Sealing (e.g. water pump)	no	non-sag	Cast Iron	<100ºC	Water, water/ glycol	*Dow Corning* 7093

Above are examples for typical applications of Dow Corning industrial sealants. Every application calls for a specific product profile.
The tables above provide key characteristics to select the most suitable sealant for your application.

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 mineral spirits, naphtha or ketones.

Note: do not clean surface with detergent or soap and water. (Soap residue may act as release agent.)

- Roughen 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® 1200 OS Primer* is recommended. After solvent cleaning, a thin coat of *Dow Corning 1200 OS Primer* is applied by dipping, brushing or spraying. At normal temperatures and humidity conditions (room temperature, 50 % relative humidity), the primer should be allowed to air dry from 15 to 90 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 2-4mm. 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 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 further information, please see our website, www.dowcorning.com or consult your local Dow Corning representative.

Your Global Connection

Dow Corning has sales offices, manufacturing sites, as well as science and technology laboratories around the globe. Telephone numbers of locations near you are available on the world wide web at **www.dowcorning.com**, or by calling one of our primary locations listed below.

North American and Corporate Headquarters
Dow Corning Corporation
Phone: +1 989 496 4000

European Area Headquarters
Dow Corning S.A.
Business & Technology Centre
Phone: +32 64 888 000

Asian Area Headquarters
Dow Corning Asia, Ltd.
Phone: +81 3 3287 1141

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