

DOW CORNING® 780 Plumbing & Roofing Sealant

DOW CORNING

PRODUCT DATA SHEET



1. DESCRIPTION

DOW CORNING® 780 Plumbing & Roofing Sealant is high performance, neutral cure silicone sealant designed for use in sealing sheet metal and aluminium roofing, flashing, guttering, wall cladding and rainwater accessories.

2. FEATURES

- ◆ Adheres to a wide range of plumbing and roofing materials.
- ◆ Neutral cure; will not corrode galvanized/zinc-coated steel or attack concrete.
- ◆ Excellent resistance to weathering, ultra-violet radiation, vibration, moisture, ozone, temperature extremes, airborne pollutants, cleaning detergents and many solvents.
- ◆ Long life reliability; cured sealant stays rubbery from -50°C to +150°C without tearing, cracking, drying out or becoming brittle.
- ◆ Capable of withstanding movements up to ±25% of original joint width.
- ◆ Non-slumping; can be used in vertical and overhead joints.
- ◆ Easy to use – one part, no mixing required.
- ◆ Can be applied in any season.
- ◆ Choice of colours: Refer below.

3. SUITABLE FOR SEALING

- Steel ● Zinc-coated Steel ● Aluminium ● Brick ● Concrete
- Ceramic ● Fibreglass ● Rubber ● Baked Enamel Surfaces
- Painted Finishes ● Select Plastics

NOTE: Refer to Sections 4, 8 and 9 prior to use.

4. LIMITATIONS

- ◆ Do not use for structural glazing.
- ◆ Not recommended for continuous water immersion applications.
- ◆ Not recommended on burst water pipes or rusted guttering as a plug or seal.
- ◆ Not recommended for use with marble and similar highly porous stone finishes where sealant may affect their appearance.
- ◆ Sealant may discolour copper and brass.
- ◆ Not recommended for joints exceeding ±25% movement.
- ◆ Not recommended for use in below ground joints or trafficable joints where abrasion and physical abuse are encountered.
- ◆ Not recommended for use in the construction or sealing of aquariums.
- ◆ Cannot be painted as paint will not adhere to sealant.
- ◆ Not recommended for use on polycarbonate plastic sheeting, suitability for use on other types of plastic should be tested prior to application.
- ◆ Not for use on freshly painted surfaces (enamel or solvent containing types).
- ◆ Should not be applied to materials that bleed plasticisers or solvents or release by-products that may inhibit its cure, affect adhesion or discolour the sealant (eg. bituminous based adhesives and coatings).
- ◆ Do not clean or treat the sealant with materials, solvents or cleaning agents that may affect or discolour the sealant, particularly during sealant cure (Refer to Section 5.).
- ◆ Do not apply when substrate surface temperatures exceed +50°C.
- ◆ Should not be used as an interior penetration firestop sealing system.
- ◆ Should not be applied to surfaces in direct contact with food or drinking water. This sealant has not been tested to determine status under U.S. Food and Drug Administration regulations.
- ◆ Not recommended for direct contact on the reflective coatings on mirrors.
- ◆ Polyester powder coat paint exhibits a highly variable wax content on the surface. Ensure thorough solvent cleaning.
- ◆ Sealant cures by contact with moisture vapour in the air. Not recommended for use in closed or confined areas where sealant cure may be inhibited by lack of air.

NOTE: Refer to Sections 8 and 9 prior to use.

5. TYPICAL PROPERTIES

NOTE: These values are not intended for use in preparing specifications.

As Supplied – tested at 25°C, 50% relative humidity

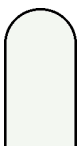
Flow, Sag or Slump	Nil
Approximate Working Time, Minutes	10
Tack Free Time, Minutes	15
Colours	25
In-depth Cure at 25°C	1-2mm Depth/Day

As Cured – after 7 days at 25°C, 50% relative humidity

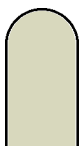
Durometer Hardness, Shore A, Points	32
Ultimate Tensile Strength, MPa	1.5
Temperature Stability, °C	-50 to +150
Movement Capability, Percent	±25

Where an architectural grade silicone sealant is required consult Dow Corning.

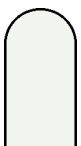
TRANSLUCENT



LIGHT GREY



OFF WHITE



CAULFIELD GREEN



Due to variations in local demand certain colours may not be held in stock in all countries. Please refer to Dow Corning for colour availability and lead times.

Colours illustrated are as accurate as printing methods will permit. Dow Corning reserves the right to change colours without notice.

6. STORAGE AND SHELF LIFE

Store in original unopened containers in a dry place. Temperature should not exceed 30°C for prolonged periods. Use sealant before stated 'Use By' date printed on the packaging. Previously opened cartridges may be used, provided still within the 'Use By' date, by simply removing any cured sealant from the nozzle.

7. PACKAGING

Supplied in standard size 300g (Translucent) and 400g (Colours) plastic cartridges which fit ordinary caulking guns.

8. SIX STEPS TO SURE SEALING

Step 1 CORRECT JOINT DESIGN:

Correct joint design minimises stresses on the sealant, enables optimum sealant movement capability, facilitates sealant application and minimises the potential for sealant splitting and voiding by enabling cure by-products to exit from the joint.

Guidelines are: 1. Minimum joint width of 6mm 2. Minimum joint depth of 6mm 3. For larger joints the width of the joint should be greater than the sealant depth (Refer Figure 1, Refer point 2. above) 4. Avoid 3 sided adhesion; Apply backer rod or bond breaker tape in the base of the joint to ensure the sealant is only bonded to the sides of the joint and is free to move to its full capacity under joint movement (Refer Figure 1).

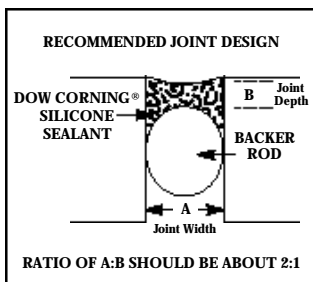


Figure 1.

Step 2 CLEAN ALL JOINT SURFACES:

Substrate surfaces must be completely clean, dry and sound. Completely remove any loose debris and/or old sealant.

General recommendations are:

(a) For Non-porous surfaces such as glass and painted aluminium:

- ♦ Solvent wipe the joint surfaces using a non-oily solvent such as methyl ethyl ketone, white spirits or mineral turpentine on a clean white lint-free cloth to remove any oils and contaminants.
- ♦ Immediately wipe with a second dry cloth to remove any traces of solvent and contamination.

(b) For Porous surfaces such as concrete:

- ♦ Wire brush or abrade the surfaces to remove loose debris, old paint and other contaminants.
- ♦ Remove dust with an oil-free compressed air blast and/or high pressure water blast.
- ♦ Allow to dry before sealing. If necessary solvent wash and allow to dry.

(c) Priming:

- ♦ A DOW CORNING® primer may be needed for optimum adhesion to some substrates based on testing conducted by the end user. (Refer Section: 9). Information on Dow Corning Primers is available on request from Dow Corning.

Step 3 INSTALL BACKING MATERIAL:

Backer rod (eg. closed cell polyethylene type or open cell polyurethane foam type) or similar material (eg. low tack polyethylene tape for shallow joints) can be used in the base of the joint to control sealant depth and avoid 3 sided adhesion by preventing adhesion to the base of the joint.

Step 4 MASK ADJACENT SURFACES WITH MASKING TAPE:

Masking will ensure a clean, neat appearance and reduce clean up by protecting surrounding areas from excess sealant.

Step 5 APPLYING SEALANT:

- ♦ Cut tip off the cartridge.
- ♦ Cut nozzle at 45° angle to the desired shape and size.
- ♦ Screw nozzle onto cartridge.
- ♦ Place cartridge in caulking gun. Air-operated or hand-operated caulking guns can be used.
- ♦ Apply sealant into the base of the joint so that it completely fills the joint, wetting both sides. Do not simply lay a bead on the surface as the sealant will not penetrate the joint under its own weight.

Step 6 TOOL JOINT AND REMOVE MASKING TAPE:

- ♦ Tool the surface of the joint immediately after sealant application to provide a smooth even finish and to ensure the sealant wets the sides of the joint.
- ♦ Tooling should be completed in one continuous stroke before the sealant forms a skin (ie: within the working time). A tool with a convex profile is recommended to keep the sealant within the joint. When sealing horizontal joints tool the sealant so that any liquids (eg. rain water, cleaning solutions) do not collect and pool on top of the sealant.
- ♦ Do not use soap or water as tooling aids.
- ♦ Remove masking tape immediately after tooling and before the sealant skins.
- ♦ After a skin has formed, do not disturb the joint for 48 hours. Avoid contact with various cleaning agents or solvents (eg. bleach) whilst sealant is curing.
- ♦ Uncured sealant can best be cleaned from tools using commercial solvents such as xylene, toluene or methyl ethyl ketone. Mineral turpentine will suffice if available. Observe proper precautions when using flammable solvents. On porous surfaces allow sealant to cure before removing by abrasion. Cured sealant is not soluble and must be trimmed with a blade, avoid undercutting the seal.
- ♦ Sealant releases methanol vapour during cure. Once cured this odour disappears. Fully cured sealant is not hazardous.

9. REQUIRED TESTING IN THE APPLICATION

It is the responsibility of the end user to thoroughly test any proposed use of the sealant and independently conclude satisfactory performance in the application.

10. MAINTENANCE

No maintenance is needed. If sealant becomes damaged, replace required portion. DOW CORNING® 780 Plumbing & Roofing Sealant will adhere to cured silicone sealant. Ensure cured sealant is clean.

11. HEALTH AND SAFETY

Full product safety information required for safe use is not included in this data sheet. Before handling, read the separate Material Safety Data Sheet (MSDS) and container label for safe use, physical and health hazard information. In case of product emergency refer to product container for emergency telephone details or contact the nearest Dow Corning office or authorised distributor. This product is neither tested nor represented as suitable for medical or pharmaceutical uses. A copy of the product MSDS is available directly from the nearest Dow Corning office or authorised distributor.

12. USAGE RATE TABLE

The table below provides a guide to the linear metres per cartridge for various joint sizes. NOTE: actual sealant usage will vary depending on such factors as joint geometry, backer rod placement, tooling and wastage at the job site.

JOINT DEPTH (mm)	JOINT WIDTH (mm)						
	6	8	10	12	15	20	25
6	8.1	6.1	4.9	4.1	3.2	2.4	2.0
8	N/O	4.6	3.7	3.0	2.4	1.8	1.5
10	N/O	N/O	2.9	2.4	2.0	1.5	1.2
12	N/O	N/O	N/O	2.0	1.6	1.2	1.0

N/O: Not optimum joint design for best sealant performance. (Refer Section: 8 Step 1).

13. FURTHER INFORMATION

For additional information or clarification on any information contained either on the product packaging, this product data sheet or the MSDS, please contact the nearest Dow Corning office or authorised distributor.

WARRANTY INFORMATION - PLEASE READ CAREFULLY

The information contained herein is offered in good faith and is believed to be accurate. However because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that Dow Corning's products are safe and effective, and fully satisfactory for the intended end use. Dow Corning's sole warranty is that the product will meet the Dow Corning sales specifications in effect at the time of shipment. Your exclusive remedy for breach of such warranty is limited to refund or purchase price or replacement of any such product shown to be other than as warranted. Dow Corning specifically disclaims any other express or implied warranty of fitness for a particular purpose or merchantability. Unless Dow Corning provides you with a specific duly signed endorsement of fitness for use, Dow Corning disclaims liability for any incidental or consequential damages. Suggestions of uses should not be taken as inducements to infringe any particular patent.

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