

SEALPROOF

WEATHRPROOFING SILICONE SEALANT

PRODUCT DESCRIPTION

SEALPROOF Weatherproofing Silicone Sealant is a one-part silicone sealant for use in most common weatherproofing applications on a wide variety of materials. After application, moisture to produce a low-modulus, long life, formed-in-place silicone rubber building joint and glazing sealant.

PACKAGING

Sealproof weatherproofing silicone sealant is available in 300ml plastic caulking cartridges packaged in cartons of 20 units.

COLOUR

Sealproof weatherproofing silicone sealant is available in 8 standard colours. Use the following product designations;

DESIGNATION	COLOUR
SCS 2002	WHITE
SCS 2003	BLACK
SCS 2009	GREY

Performance Properties

- Easy-to-apply, low modulus sealant
- Ability to withstand high joint movement +- 50%
- Proven performance; has been providing outstanding weather-sealing protection for more than 30 years
- Primer-less adhesion to common building substrates such as glass, paints, plastics, most metals, stone, concrete and masonry
- Can be used as structural sealant.

SPECIFICATIONS

Typical product data values should not be used as specifications. Assistance and specifications are available by contacting Sealants Australasia Pty Ltd.

BASIC USES

Sealproof Weatherproofing silicone sealant is designed for use in structural glazing applications such as in-shop and field glazing of curtain wall modules where glass lights are attached to the metal framing system with structural sealant. Sealproof Weatherproofing silicone sealant may also be used to seal assemblies of metals, masonry, concrete, coated surfaces, plastics,

TYPICAL PROPERTIES

As Supplied	Value	Test Method
Shore A Hardness	25	ASTM C661
Ultimate Tensile Strength	340 psi (2.3 MPa)	ASTM D412
Ultimate Elongation	715%	ASTM D412
Tensile at 50% Elongation	41 psi (0.29 MPa)	ASTM C1135
Tensile at Max Elongation	141 psi (0.98 MPa)	ASTM C1135
Specific Gravity	1.40	
Application rate	2.3 seconds	ASTM C603
sag/Slump	2.5 mm max	ASTM C639
Peel Strength Aluminium-Glass (21 day cure) 21°C (70°F) 50% R.H.	55 ppi (9.6 kN/m)	ASTM C794
Joint Movement Capability	±50%	ASTM C719
Ozone and U.V. Resistance	Excellent	ASTM C793
Staining on Concrete	None	ASTM C510
Tack Free Time	2 hours	ASTM C679
Cure Time (9mm deep) at 21°C (70°F) 50% R.H.	10-14 days	
Tooling Time	30 minutes	
Application Temperature Range ¹	+4 to 49°C	ADCT ³ -01
Performance Range ²	-48 to 149°C	ADCT ³ -13A

Note; ¹ Broad application temperature range extends practical working time.

² Temperature range over which sealant is expected to maintain elasticity.

³ GE Toshiba Silicones Internal Test Methods.

wood and other common construction materials. Sealproof Weatherproofing silicone sealant is specially designed for use in butt joints or lap shear joints in weatherproofing and glazing applications subject to movement. The low-modulus characteristic reduces strain on the substrate surface and elastomeric quality allows excellent recovery from extension and compression cycling. Sealproof weatherproofing silicone sealant may be factory or field applied to glass, metal and plastics in glazing and curtain-wall assemblies to produce a primary or secondary seal against water, air and dust penetration.

LIMITATIONS

Structural glazing applications require that Sealants Australasia gives written approval of the use of Sealproof Weatherproofing silicone sealant for each building project. Drawing review and substrate testing must be completed prior to sealant use on a project. Review and testing is done on a jog-to-job basis. No Blanket approval is given by Sealants Australasia for





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structural glazing applications. Use only approved back-up materials, spacers and setting blocks to ensure sealant compatibility and function. Sealproof weatherproofing silicone sealant is not recommended for use in locations subject to continuous water immersion. Sealproof weatherproofing silicone sealant should not be applied to;

- Concrete surfaces which contain residual form oil or other bond breaking contaminants that may interfere with sealant adhesion
- Building materials which might bleed oil or solvents; these include, but are not limited to, impregnated wood and certain vulcanized rubber gaskets or foams, tapes or failed sealants and caulking compounds. When Sealproof silicone sealant is used in remiadiial work, all old sealant must be removed
- Areas where atmospheric contaminants might change the appearance of light coloured sealants; silicone sealant is weather-resistant and resists chalking, degradation and erosion. As a result, environmental contaminants tend to cling to the surface may take on the colour of the contaminant. Darker colours should be used to minimize the effect.
- Reflecting, high-gloss or light-coloured surfaces where aesthetics are critical, until adequate on-site sealant, surface and ambient atmosphere tests simulating building design are conducted to ascertain material compatibility and migration to adjacent surfaces under actual use conditions.
- Unpredictably absorptive surfaces such as marble or limestone, unless a standard of appearance has been agreed upon by the seller and the purchaser as a result of testing for stain or discolouration.
- Totally confined spaces, as the sealant requires atmospheric moisture for completion of cure and generation of properties.
- Surfaces which will be painted, as painting over rubber is not recommended. The paint film does not stretch with the extension or compression of the rubber and the adhesion of the paint Sealproof weatherproofing silicone sealant is not adequate.
- Unprepared or wet surfaces.
- Do not use water for tooling and do not apply to wet or damp surfaces.
- Surfaces where adhesion has not been verified by on site testing under actual use conditions.

COMPOSITION AND MATERIALS

Sealproof weatherproofing silicone sealant is the result of the unique chemistry of silicones. Inorganic materials are usually chemically stable and show little change in physical properties with weathering. Organic compounds are flexible and more versatile than inorganic materials, but are more subject to attack by the elements. Their physical properties are degraded by age and weathering.

Sealproof silicone sealant combines the best of both categories. Sealproof weatherproofing silicone sealant has excellent resistance to heat, cold, ultraviolet radiation, ozone, sunlight and rain. This contributes to the extended life of the sealant.

Sealproof weatherproofing silicone sealant is supplied as a ready-to-use, one-part sealant with a light weight consistency. This consistency is relativity unchanged over a temperature range of -37oC (-35oF) to 60oC (140oF), allowing the sealant to be applied in any season, to clean, dry, frost free surfaces.

Sealproof weatherproofing silicone sealant cures on exposure to moisture in the air.

The performance range after cure is from -48oC to 93oC (-55oF to 200oF).

APPLICATION STANDARDS

Contact Sealants Australasia for details of certification to

- ASTM C 1184
- Fed. Spec. TT-S-001543A and TT-S-00230C
- ASTM C920, Type-S, NS Class 25
- BS5889, Type A
- GB JC / T 882

FIRE HAZARD CLASSIFICATION

Sealproof weatherproofing silicone sealant has been tested according to Underwriters Laboratories, Inc, U.L. 723 Test for surface Burning Characteristics and ASTM E814 Vertical Fire Endurance Test. Contact a Local Sealants Australasia Centre for details.

TECHNICAL DATA

Sealproof Weatherproofing silicone sealant is basically unaffected by normal weathering conditions such as sunlight, ultraviolet radiation, rain, snow and temperature extremes. Its weather-ability enables it to retain it's properties after years of exposure. The sealant has resistance to detrimental effects caused by polluted atmospheres and many chemicals and chemical solutions. Joints formed with this sealant can be expected to extend and compress 100% of the installation width with no more than 50% in a single direction without effecting the sealant or adhesion. Sealproof weatherproofing silicone sealant is compatible with laminated glass, insulating glass units and acrylic and Lexon Polycarbonate glazing sheet.

JOINT DESIGNS AND DIMENSIONS

Curtainwall expansion joints should be designed to allow installation and retention of the bond-breaking back-up material during the installation and subsequence curing of sealproof weatherproofing silicone sealant. Refer to Sealants Australasia Joint design and sealant selection design guide. Consult with Sealants Australasia for recommendations on large or unusual application.



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INSTALLATION

SURFACE PREPARATION

Clean all concrete, masonry and stone joints of all contaminants impurities. Concrete form releases agents, water repellents, concrete laitance, all old sealants and other surface treatments and protective coatings are examples of materials which must be removed from the joint surfaces to obtain proper sealant adhesion. Porous substrates should be cleaned where necessary by grinding, saw cutting, blast cleaning (sand or water), mechanical abrading or combination of these methods to provide a sound, clean surface for sealant application. Dust, loose particles, etc., should be blown out of joints with oil-free compressed air or vacuum cleaned. Clean all metal, glass and plastic procedures. Detergent or soap and water treatments are not recommended. Protective films must be removed by a solvent recommended by the manufacturer of the substrate or other means which leave no residue. In all cases where used, solvents should be wiped dry with a clean cloth or lint-less paper towels. Cleaning solvents should not be allowed to air dry or evaporate without wiping. Architectural coating, paints and plastics should be cleaned with a solvent approved by the manufacturer of the product. Cleaning of all surfaces should be done after one to two hours after the sealant is applied. CAUTION: SOLVENTS MAY BE FLAMMABLE AND/OR TOXIC.

PRIMING

Sealproof weatherproofing silicone sealant has a primer-less adhesion characteristics to many common construction materials; however, some materials such as concrete, mill finish aluminium, galvanized steel and other materials with variable surface characteristics often require priming. In view of unpredictable surface characteristics, trial application should be made to check adhesion to the specific materials to be used on the project. SS4179 Primer is recommended for concrete, some paints and plastic surfaces.

MASKING

The use of masking tape is recommended where appropriate to ensure a neat job and to protect adjoining surfaces. Do not allow masking tape to touch clean surfaces to which the silicone sealant is to adhere. Masking tape should be removed immediately after the finish tooling of the sealproof weatherproof silicone sealant is accomplished and before the sealant begins to cure.

APPLICATION

Install back-up material or joint filler, setting blocks, spacer shims and tapes as specified. Apply Sealproof weatherproofing silicone sealant in a continuous

operation, horizontally in one direction and vertically in one direction from the bottom to the top of the joint opening. A positive pressure adequate to properly fill and seal the joint width should be employed. Tool or strike the sealproof weatherproofing silicone sealant with light pressure to spread the material against the back-up material and joint surfaces.

The light-weight consistency of sealproof weatherproofing silicone sealant responds easily to light tooling pressure and facilitates void-free placement. A tool with a concave profile is recommended to keep sealproof weatherproofing silicone sealant within the joint.

In glazing, tool the sealant at the sill so that precipitation and cleaning solutions will not pool. Sealproof weatherproofing silicone sealant can be applied at outdoor temperatures as low as -37oC (-35oF) provided that the surfaces are clean, dry and frost free. Excess sealant should be cleaned from glass, metal and plastic surfaces while still incurred using solvent. On porous surfaces the excess sealant should be allowed to progress through the initial cure or set-up. It should then be removed by abrasion or other mechanical means.

HANDLING & SAFETY

Material safety Data sheets (MSDS) are available upon request from Sealants Australasia. Similar information for solvents and other chemicals used with Sealants Australasia products may be obtained from your suppliers. When solvents are used, proper safety precautions must be observed. All solvents must be used only in well ventilated areas. Exposure to high vapour concentrations must be avoided. When flammable solvents are used, storage, mixed, and use must be in areas away from heat, sparks, flame or other sources of ignition.

STORAGE AND SHELF LIFE

Sealproof weatherproofing silicone sealant has a shelf life of 18 months from manufacturing when stored in sealed containers at temperatures at or below 27oC (80oF). Refer to the "Use by date" on the packaging before use. In cases where shelf life has been exceeded, the local Sealants Australasia representatives should be contacted for further information, prior to intended use of this material.

AVAILABILITY

Products may be ordered from sealants Australasia sales office nearest you or where appropriate, an authorized sealants Australasia product distributor or nearest sealants Australasia centre.

GOVERNMENT REQUIREMENT

Prior to considering use of sealants Australasia product



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ADHESION CHARACTERISTICS¹

Sealproof silicone sealant was used to adhere wire screening to a variety of common construction surfaces using the adhesion in peel configuration. After 21 days of 23°C (75°F) /50% RH followed by 7 days immersion in water the adhesive bonds are tested in a 180 peel-back test using a jaw separation speed of 2" per minute. The actual results are given in pounds force per inch of peel strength and percent cohesive failure.

Surface	21 Days 23°C/59% RH		21 Days 23°C/50% RH and 7 days water immersion	
	lbs. f/in.	Cohesion% (kN/m)	lbs. f/in.	Cohesion% (kN/m)
Stainless Steel	57 (10.0)	100	33 (5.8)	60
Mill Finish Aluminium (primed)	58 (10.2)	100	45 (7.9)	75
Anodized Aluminium	65 (11.4)	100	56 (9.8)	100
Carbon Steel	61 (10.7)	100	33 (5.8)	50
Concrete (Primed)	70 (12.3)	100	62 (10.9)	100
Glass	63 (11.0)	100	50 (8.8)	100
Acrylic Sheet	62 (10.9)	100	57 (10.0)	100
Lexan® Polycarbonate Sheet	62 (10.9)	100	46 (8.1)	100
PVC Sheet	63 (11.0)	100	32 (5.6)	60
Polyester Fiberglass Sheet	60 (10.5)	100	54 (9.5)	100
Kynar 500® Resin† Based Paints (primed)	50 (8.8)	100	40 (7.0)	100

¹Values are not intended for use as specifications.

†Registered trademark Pennwalt Corp.

in fulfilling any government requirement, please contact sealants Australasia service department to determine if all government requirements can be met.

LIMITED WARRANTY

Sealants Australasia warrants that its product will conform to sealants Australasia specifications at the time of applications or use. The product must be stored in accordance with sealants Australasia recommendations, and used or applied before earliest of (i) the indicated "Use before Date", (ii) one year from date of purchase, or (iii) expiration of such other period or recommended storage time stated in the sealants Australasia product literature. If notified, in writing, of a claim within six months of the products use or application, sealants Australasia will, at its option, replace or return the purchase price of any sealants Australasia product which does

not satisfy the forgoing warranty. *THE FOREGOING SHALL CONSTITUTE THE SOLE AND EXCLUSIVE REMEDY FOR DEFECTS OR FAILURE OF THE PRODUCT, AND THE SOLE AND EXCLUSIVE LIABILITY OF SEALANTS AUSTRALASIA SILICONES. THE WARRANTIES STATED ABOVE ARE IN LIEU OF ALL OTHER WARRANTIES, WRITTEN OR ORAL, STATUTORY, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS OF PURPOSE.*

LIMITATION OF LIABILITY

Sealants Australasia shall in no event, whether the claim is based on warranty, contract, tort, strict liability, negligence or otherwise, be liable for incidental or consequential damages, or for any damages in excess of the amount of the purchase price.

NOTE: For many products, sealants Australasia may





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be able to offer a more extensive, application specific warranty. For further information, contact sealants Australasia field representatives.

MAINTENANCE

No maintenance is needed. If silicone sealant becomes damaged, replace damaged portion. Clean surfaces in damaged area and repair with fresh silicone sealant. Refer to Sealants Australasia remedial caulking design guide.

TECHNICAL SERVICES

Complete technical information and literature are available from sealants Australasia. Laboratory facilities and application engineering are available upon request from sealants Australasia. Any technical advice furnished by sealants Australasia or representative of sealants Australasia, concerning any use of application of any sealant is believed to be reliable but sealants australasia makes no warranty, express or implied, of any use of application for which advice is furnished.



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Sealant Volume Calculator

Number of 300gm Cartridges =
 $\text{Joint Width (mm)} \times \text{Joint depth (mm)} \times \text{Joint length (meter)} \times 1.15^* \text{ Divided by } 292$

** Please note: 1.15 Allows for 15% wastage. Joints are assumed rectangular*