

Technical Data Sheetswiftsupplies.com.au

Weicon Black Seal is a specialised type of high quality silicone adhesive and sealant with excellent oil, grease and high temperature resistance. This RTV silicone is especially well suited for leak proof sealing, bonding and the manufacture of formed in place gaskets in automotive and marine applications.

Weicon Black Seal bonds very well to steel, aluminium, glass ceramic and many other types of materials. It has a fast skin over time (approx. 7 minutes) and will withstand temperatures up to 300°C. It also has very good pressure resistance for sealing, controlled swell characteristics and is UV resistant so it can be used outdoors.

[View This Product](#)**Applications**

- Tank sealing, construction and repairs
- Oil sump sealing
- Gearbox sealing
- Sealing and bolting valve and casing covers
- Water pump sealing
- Automotive, aerospace and marine bonding and sealing
- Gear and axle sealing
- Flange sealing

Preparation of the Surface

To ensure good adhesion, the surface Black Seal will be applied to must be clean and free of greases or oils. Surface contaminants like dust or dirt can be removed with general cleaners (or Weicon Surface Cleaner). For heavily soiled surfaces, Weicon Cleaner S or Weicon Gasket Remover may be more suitable.

Most types of materials can be bonded to with Weicon Black Seal Special Silicone. That said, for certain materials (such as low surface energy plastics like polyethylene or PTFE) or extreme requirements the use of a primer may be necessary. More information on these is available from Swift Supplies. Alternatively, (and for very smooth surfaces) a mechanical surface pre-treatment (e.g. sanding or sand-blasting) can considerably improve adhesion.

Application

Cartridges (310ml) of Black Seal should be applied using a cartridge gun or automatic dosing system. Squeeze packs can be applied by hand. To ensure optimum wetting and therefore adhesion to the surfaces, the parts being bonded must be joined before the first skin has formed on the adhesive. All Weicon elastic one part adhesives and sealants cure by reacting with humidity in the surrounding environment. The curing process starts at the surface of the adhesive and proceeds inwards from there. At 50% relative humidity and 23°C, the cure speed is approximately 3mm in the first 24 hours.

Adhesive bonds of large surfaces and high layer thicknesses cure more slowly as the humidity cannot penetrate as quickly towards the inside of the adhesive if the outer layers have already cured. Higher temperature and/or higher humidity accelerates curing while lower temperatures and/or lower humidity slows it down.

Important

The values listed here and the information presented should not be treated as a substitute for specific technical advice. We cannot warrant the products performance or suitability for particular applications.

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Technical Details
Properties

Basis	One Part Acetate Silicone
Viscosity	Pasty
Density	1.06 g/cm ³
Stability / Run-Off (ASTM D 2202)	>1mm
Processing Temperature	+5°C to +35°C
Curing Temperature	+5°C to +40°C 30% to 95% Relative Humidity
Skin-Over Time	7 Minutes
Cure Speed (first 24 hours)	2-3mm
Volume Change (DIN 52451)	-3%
Gap Fill Max. Depth	5mm
Gap Fill Max. Width	25mm
Shore Hardness (DIN 53504 / ASTM D 412)	30 Shore A
Elongation at Break (DIN 53504 / ASTM D412)	500%
Tensile Strength of Sealant	2 N/mm ²
Average Tensile Shear Strength (DIN 53283)	0.7 N/mm ²
Tear Strength (DIN 53515 / ASTM D 624)	4 N/mm ²
Max. Movement Capacity	15%
Temperature Resistance (Continuous)	-50°C to +280°C
Temperature Resistance (Short-Term, 2 Hour Max.)	+300°C
Paintable (Liquid Paint)	No
Building Material Category (DIN 4102)	B 2
Solids Content	96%
Specific Forward Resistance	2.5 x 10 ¹⁵ Ohm/cm
Thermal Conductivity	0.3 W/m·K
Dielectric Strength	21 kV/mm
Shelf Life (Stored at +5°C to +25°C)	12 Months

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Weicon Black Seal Chemical Resistance After Curing

Acetic Acid (<5%)	+	Ketones	O
Acetone	+	Lyes (diluted)	+
Alcohol	+	Methanol	+
Ammonia (10%)	+	Methyl Ethyl Ketone	+
Antifreeze	+	Motor Oil (Mineral and Synthetic) +140°C	+
Caustic potash solution (20%)	-	Motor Oil (Mineral and Synthetic)	+
Citric Acid (10%)	+	Naphtha	+
Concentrated Formic Acid	+	Nitric Acid (5%)	+
Concentrated Phosphoric Acid	-	Paint Thinner	+
Concentrated Silicon Oil	+	Paraffin Oil	+
Cooling Lubricant (Water Dilutable)	+	Petrol (92 to 100 octane)	+
Diesel / Heating Oil	+	Phosphoric Acid (5%)	+
Edible Oil / Vegetable Oil	+	Salt Water / Sea Water	+
Ethanol	+	Sodium Hydroxide Solution (20%)	+
Freon	O	Sulphuric Acid (5%)	+
Gear Oil	+	Toluene	+
Glycerine (glycol)	+	Water	+
Glycol Ether	+	Water (90°C)	+
Hydraulic Oil	+	Xylem	+
Hydrochloric Acid (5%)	+		
Hydrogen Peroxide (3%)	+		

+ = Resistant

O = Resistant for a Limited Time

- = Not Resistant

Storage

When stored unopened and in normal climatic conditions (23°C and 50% relative humidity) Weicon Black Seal Special Silicone has a minimum shelf-life of 12 months.

Available Sizes

Weicon Black Seal is available from Swift Supplies in 85ml Squeeze Tubes and 310ml cartridges.

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