ALL-SIL™

One-Part Silicone Sealant
Technical Data Sheet

OVERVIEW & FEATURES

All-Sil is a one-part silicone sealant that forms a durable, flexible building seal. All-Sil is intended for use in metal curtain walls, copings, panel bedding, and glazing details. All-Sil has great adhesion to PVC, many types of coated metal (including Kynar® coated), many plastics, styrofoam, and glass.

This product is a medium modulus, non-corrosive, neutral-curing, high performance sealant that cures at low humidity levels. Because of its low-modulus, high extension/compression and recovery properties, and its strong adhesion to most building materials, All-Sil performs exceptionally well under dynamic conditions accommodating long-term movement of ± 50% in properly designed joints.

APPLICATION

Surface Preparation - Joint surfaces and backer rod must be dry and free of all contaminants such as oil, grease, wax, dust, corrosion, tar, asphalt, loose aggregate, frost, form-release agents and decorative and protective coatings. Glass, metal and other nonporous surfaces must be free of any coatings and wiped clean with solvent.

Priming - Make sure the substrate is free from dust, dirt, debris, and any contaminants. Priming is not required on glass or anodized aluminum and usually not necessary on most other common building materials. However, plastics, paints, coatings and other treated surfaces often present difficult substrates to which to adhere. Due to the variety and unpredictable nature of these substrates, a field test is recommended to determine the adhesion of All-Sil. Because architectural stones such as marble and granite vary considerably in porosity, some bleeding of the sealant into the substrate is possible. A field test to confirm this possibility is recommended.

Joint Backing - Backer rods control the depth of the sealant and allows it to be applied under pressure. Use an oversized, bi-cellular backer rod so that it compresses 25%. Closed-cell polyethylene may be used but take care not to puncture the rod which can cause outgassing or bubbling/blistering in the sealant. In joints too shallow for backer rod, use a polyethylene bond-breaker tape to prevent three-sided adhesion.

Application - Joints should be masked to ensure a neat appearance. Sealant should be applied in a continuous operation using sufficient pressure to fill the joint and make complete contact to the joint sides. Tool the sealant slightly concave using mineral spirits or dry-tooling techniques. Do not tool with soap or detergent and water solutions.

Joint Design - The width of the joint should be a minimum of four (4) times the anticipated movement. The width or depth of the joint should not be less than 1/4" (6 mm). In joints up to 3/8" (9 mm) wide, the depth of the sealant should be equal to the width. In joints wider than 3/8" (9mm), but not exceeding 1-1/4" (31mm), the depth should be half the width of the joint. For joints wider than 1-1/4" (31 mm), please consult Garland's Technical Department.

Movement Capability - 50 percent extension to 50 percent compression. Joint sealants do not change volume with expansion or compression, only shape. The greater the change in shape, the greater the stress on the sealant.

Tool Time (Initial Skin) - Initial skim forms in 8-10 hours at 77°F (25°C) and 50 percent relative humidity. Higher temperatures and/or humidity will shorten this time.

Cleaning - Use mineral spirits to remove excess sealant before it cures and to clean equipment.

Storage Life - All-Sil has a shelf life of twelve (12) months from the date of shipment, when stored in original unopened cartridges at conditions not exceeding 80°F (27°C) and 50 percent relative humidity. Consistently higher temperatures and/or humidity will shorten this shelf life.

PRECAUTIONS

- Use with adequate ventilation. Avoid skin and eye contact. Skin may be cleaned with mineral spirits and then washed thoroughly with soap and water.
- May be harmful if swallowed. Do not induce vomiting. Call physician immediately. Keep away from heat and flames.
- For professional use only.
- Keep out of reach of children.
- Use with caution and refer to manufacturer's instructions and Safety Data Sheets

LIMITATIONS

All-Sil should not be used:

- As a cap, heel or toe bead in certain glazing installations with high-performance glass or plastic
- In joints less than 1/4" (6 mm) in depth
- In joints where contact may be made with polysulfide sealants
- In areas exposed to harsh chemicals
- On certain architectural paints and finishes without laboratory or field testing
- In horizontal joints subject to vehicular traffic unless protected by a wearing surface
- On coal tar based products; will cause discoloration

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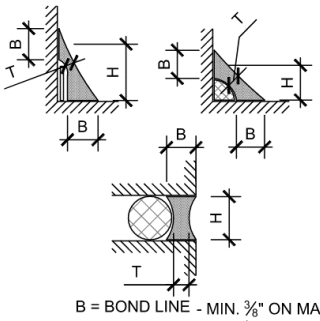
since 1895

Technical Data	All-Sil
Specific Gravity	1.04
Tensile Strength (ASTM D 412)	190 psi
Elongation (ASTM D 412)	650%
Joint Movement Capability (ASTM C 719)	± 50%
Hardness, Shore A (ASTM C 661)	15
Shelf Life	12 months
Colors	10.1 oz - Clear & Black 20 oz - Black & Bronze
Packaging	10.1 oz. (300 ml) cartridge 20 oz. (600ml) sausage tube

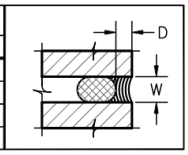
For specific application recommendations and coverage rates, please contact your local Garland Representative or Garland Technical Service Department.

Eco-Facts	All-Sil
VOC	40 g/L

Joints Size Depth x Width	10.1 oz tube	20 oz sausage
1/4 in. x 1/4 in. (0.635 cm x 0.635 cm) 1/4 in. x 1/2 in. (0.635 cm x 1.27 cm)	24 ft. (7.32 m) 12 ft. (3.66 m)	48 ft. (14.63 m) 24 ft. (7.32 m)
3/8 in. x 3/8 in. (0.95 cm x 0.95 cm) 3/8 in. x 3/4 in. (.95 cm x 1.91 cm)	11 ft. (3.35 m) 5.5 ft. (1.68 m)	21 ft. (6.40 m) 10.5 ft. (3.20 m)
1/2 in. x 1/2 in. (1.27 cm x 1.27 cm) 1/2 in. x 1 in. (1.27 cm x 2.54 cm)	6 ft. (1.83 m) 3 ft. (0.91 m)	12 ft. (3.66 m) 6 ft. (1.83 m)
3/4 in. x 3/4 in. (1.91 cm x 1.91 cm) 3/4 in. x 1.5 in. (1.91 cm x 3.175 cm)	2.5 ft. (0.76 m) 1.5 ft. (0.46 m)	5 ft. (1.52 m) 3 ft. (0.91 m)
1 in. x 1 in. (2.54 cm x 2.54 cm)	1.5 ft. (0.46 m)	3 ft. (0.91 m)



SEALANT CHART	
W	D
1/4 IN.	1/4 IN.
1/4 TO 1/2 IN.	1/4 IN.
1/2 TO 1 IN.	W/2
GREATER THAN 1 IN.	W/2



B = BOND LINE - MIN. ⅜" ON MASONRY
- MIN. ¼" ON METAL OR GLASS

T = SEALANT THICKNESS - MIN. ¼" TO ⅜" FOR SILICONE SEALANTS
- MIN. ¼" TO ½" FOR URETHANE SEALANTS

GENERAL BEAD PROFILE - PROVIDE AN "HOURGLASS" PROFILE (B>T)
- PROVIDE MIN. 2:1 LENGTH TO THICKNESS RATIO (H:T)

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