

MF899

Silicone Structural Sealant

Neutral, One Component Silicone Sealant for Structural Glazing

◆ DESCRIPTION

SILANDE MF899 is one component, neutral cured silicone structural sealant, specifically designed for the structural bonding of glass, metal and other the building components. It can also be used to adhere stiffening elements to building panels and for other similar adhesives applications. It easily extrudes into any weather and cures at ambient temperature by reaction with moisture in the air forming a durable, flexible silicone rubber seal.

◆ TYPICAL PERFORMANCE

- Excellent adhesion to a wide range of substrates including coated glass, galvanized steel, masonry, anodized and polyester paint coated aluminium and stainless steel and other porous and non-porous substrates.
- High ultimate tensile strength makes it ideally suited for structural bonding application.
- Excellent weathering characteristics and high resistance to ultra-violet radiation, heat and humidity.
- Excellent temperature stability: - 50°C to 180°C.
- High level of mechanical properties.
- Good resistance to weather aging.

◆ TECHNICAL DATA - TYPICAL PROPERTIES

TEST ITEMS	TEST RESULT ⁽¹⁾	STANDARD
Test Conditions: T (23±2) °C, RH (50±5) %		
Flow, Sag or Slump	0	ASTM C639
Extrudability, s	3	ASTM C603
Tack-free Time, h	1	ASTM C679
Curing Time, d	7~14	
Adhesion Time, d	14~21	
Application Time, min	20	
Range of Application Temperature, °C	5~40	
Test Conditions: 21 days placed at T (23±2) °C, RH (50±5) %		
Hardness, Shore A	33	ASTM C661
Range of Temperature Resistance, °C	-50~180	
Ultimate Tensile Strength, MPa	0.90	
Ultimate Elongation, %	300	ASTM C1135
Effects of Heat Aging, %	3	ASTM C792
	no cracking and chalking	
Tensile Adhesion on hybrid specimen (glass and aluminum), psi	Standard conditions	92
	Test Cond. 1h @ 88±5°C	102
	Test Cond. 1h @ -29±2°C	89
	Test Cond. 7d immersed in DI water @ 23±2°C	76
	Test Cond. 5000h UV/Con	105
VOC content, g/L	36.6	ASTM C1442 Sec.7.3 SCAQMD 1168

(1) Typical value, actual value may vary.

◆ INSTALLATION

For structural glazing application, SILANDE MF899 Silicone Structural Sealant is recommended as job-site work. Please make sure the application environment is well ventilated and away from raise dust.



◆ JOINT DESIGN AND DIMENSIONS

As a general rule, structural sealant joints made with SILANDE MF899 Silicone Structural Sealant should have a width between 6mm and 15mm. However, the exact width is determined by the structural calculations. The width (dimension) of the structural sealant joint should also be calculated to accommodate thermal and dynamic movements but as a rule should not be less than 6mm and ideally in a 3:1 ratio (width:depth).

Table 1 Joint Design for Sealant Application

Depth (mm)	Width (mm)					
	6	9	12	15	20	25
6	16.4	10.9	8.2	6.5	4.9	3.9
9	N.R	7.3	5.4	4.3	3.2	2.6
12	N.R	N.R	4.1	3.2	2.4	1.9

◆ APPLICATION METHODS

Install the backing materials, setting blocks and spacer tapes as specified. Apply SILANDE MF899 in a continuous operation using positive pressure to properly fill and seal the joint. Tool the sealant with slight pressure to spread it against the backing materials and the joint surfaces. A tool with a concave profile is recommended to keep the sealant within the joint.

◆ APPLICABLE STANDARDS

- ASTM C920/ C1184
- Other Standards: ETAG 002, JC/T 475, GB 16776



◆ PREPARATORY WORK / INSTALLATION

Sealant may not adhere or maintain long-term adhesion to substrates if the surface is not prepared and cleaned properly before sealant application. Using proper materials and following prescribed surface preparation and cleaning procedures is vital for sealant adhesion. SILANDE can provide quality control information and suggestions to user upon request.

- Use clean, fresh solvent as recommended by the sealant manufacturer's test report. When handling solvents, refer to manufacturer's MSDS for information and handling, safety and personal protective equipment. Isopropyl Alcohol (IPA) is commonly used and has proven useful for most substrates encountered in SSG systems.
- Use clean, white cloths free of lint or other lint-free wiping materials.
- Use a clean, narrow blade putty knife when tooling structural sealant in the cavity.
- Use primer when required.

◆ PRIMER

SILANDE MF899 Silicone Structural Sealant will bond to many clean surfaces without primer. For difficult to bond substrates, the use of a primer should be evaluated. When properly used, primers help assure strong and consistent adhesion to surfaces that maybe difficult to bond. Most primers are blend or organic and inorganic chemicals, resins and solvents. Never apply primer to glass surface.

◆ COLORS

Black / Grey / White / Clear

Custom colors may be ordered to match virtually any substrate.

◆ MASKING AND TOOLING

Areas adjacent to joints may be masked to ensure neat sealant lines. Do not allow masking tape to touch clean surfaces to which the sealant is adhered. Tooling should be completed in one continuous stroke within 5 minutes after sealant application and before a skin forms. Remove masking tape immediately after tooling and before the sealant has started to form a skin.

◆ CLEANING PROCEDURES

- Remove all loose material (such as dirt and dust), plus any oil, frost or other contaminants from the substrates to which the structural silicone will be adhered.
- Do not use detergent to clean the substrate as residue may be left on the surface.
- Clean the substrates receiving the sealant as follows: Using a two-rag wipe technique. Wet one rag with solvent and wipe the surface with it, then use the second rag to wipe the wet solvent from the surface before it evaporates. Allowing solvent to dry on the surface without wiping with a second cloth can negate the entire cleaning procedure because the contaminants may be re-deposited as the solvent dries.
- When cleaning deep, narrow joints, wrap the cleaning cloth around a clean, narrow-blade putty knife. This permits force to be applied to the clean surface.
- Clean only as much area as can be sealed in one hour. If cleaned areas are again exposed to rain or contaminants, the surface must be cleaned again.

◆ LIMITATIONS

SILANDE MF899 should not be used for structural applications without the prior written approval of SILANDE QC Department. Each project should be specifically and separately approved by SILANDE.

Project specific approval involves the following prerequisites:

- Joint dimension and print reviews.
- Successful laboratory adhesion and compatibility testing to all building components.
- Observance of professional sealant application and workmanship standards.
- Users should always consult SILANDE Technical Service Department for adhesion recommendation.

SILANDE shall not be held liable for any possible claims arising from structural glazing use of SILANDE MF899 for projects which have not been specifically approved by SILANDE.

For projects which have been approved, SILANDE will issue a structural adhesion warranty on a case by case basis at the user's request. It is the user's exclusive responsibility to ensure project compliance with local building regulations. Because of the risk of incompatibility, SILANDE MF899 should not come into contact with, or be exposed to sealants that liberate acetic acid. This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

◆ FIRST AID INFORMATION

Eye Contact: Flush eyes with plenty of water. If signs/symptoms persist, get medical attention. **Skin Contact:** Remove contaminated clothing and shoes. Immediately flush the skin with plenty of water. Wash contaminated clothing and shoes before reuse. **Inhalation:** Remove the person to fresh air. If signs/symptoms develop, get medical attention. **If swallowed:** Do not induce vomiting unless instructed to do so by medical personnel. Give the person two glasses of water. Never give anything by mouth to an unconscious person. **Keep out of reach of children.** Refer to Material Safety Data Sheet (MSDS) and Technical Data Sheet (TDS) for more details.

Emergency Telephone Number: +86 371 67982270

◆ SHELF LIFE AND STORAGE

12 months from the date of manufacture, store in a cool, dry and ventilated place below 30°C in the original unopened packing.

◆ PACKAGING

Cartridge: 300 ml	25 pcs/carton
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Sausage: 592 ml	20 pcs/carton
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