

MF899-25

Silicone Structural Sealant

◆ INTRODUCTION

MF899-25 is one component, neutral, moisture cured in room temperature silicone sealant.



◆ CHARACTERISTICS AND ADVANTAGES

- Meet the standards JG/T 475, GB 16776 and ETAG 002 at the same time with 25 years guarantee.
- Neutral cured at room temperature, and no corrosion to the surfaces of substrates.
- Excellent adhesion to a wide range of substrates including coated glass, colored glazing glass, anodized aluminum and stainless steel.
- High elasticity and modulus.
- Excellent mechanical properties and good shelf life.
- Excellent stability in the temperature range -60°C and 180°C.
- Excellent resistance to ultraviolet aging property.
- Elastic silicone rubber after curing.

◆ PURPOSES

- Mainly applied to the structural glazing system of high, ultra-high curtain wall, large size glass curtain walls, and complicated structural curtain wall, as well as the manufacture of insulating glass.
- Adhesion of glass and metal materials, and forming a long-lasting and elastic waterproofing surface after curing.

◆ PROPERTIES

STANDARD	ITEMS	TECHNICAL REQUIREMENTS	VALUES
Test at T (23±2)°C and RH (50±5)% before curing.			
GB/T 13477.2	Density-g/cm ³	—	1.45
GB/T 13477.6	Sag, mm	≤3	0
—	Application time, min	—	30
GB/T 13477.3	Extrusion property, s	≤10	1.9
GB/T 13477.5	Tack-free time, h	≤3	2.5
—	Curing Time, d	—	7~14
—	Adhesion Time, d	—	14~21
—	Construction temperature scope, °C	—	10~40

STANDARD		ITEMS	TECHNICAL REQUIREMENTS	VALUES
Test after 21 days at T (23±2)°C and RH (50±5)%.				
GB 16776	Tensile Adhesion Property	23°C	≥0.60	1.02
		90°C	≥0.45	0.89
		-30°C	≥0.45	1.36
		After soak	≥0.45	0.87
		After soak & UV	≥0.45	0.9
		Adhesion Failure Area, %	≤5	0
		Elongation at Max Tensile Strength and 23°C, %	≥100	208
GB/T 531.1	Hardness, Shore A		20~60	45
—	Temperature resistance range after cured		—	-60~180
GB 16776	Thermal Aging	Thermal weight loss	≤10	3
		Fracturing	No	No
		Pulverizing	No	No
Test after 28 days at T (23±2)°C and RH (50±5)%.				
ETAG 002	Tensile at 23 °C	Ru,5, MPa	≥0.50	0.92
		K12.5	—	0.21
		Cohesion Failure Area, %	≥90	100
	Tensile at -20 °C	ΔXmean	≥0.75	1.35
		Cohesion Failure Area, %	≥90	100
	Tensile at 80 °C	ΔXmean	≥0.75	0.86
		Cohesion Failure Area, %	≥90	100
	Shear at 23 °C	Ru,5, MPa	≥0.50	1.05
		Cohesion Failure Area, %	≥90	100
	Shear at -20 °C	ΔXmean	≥0.75	1.46
		Cohesion Failure Area, %	≥90	100
	Shear at 80 °C	ΔXmean	≥0.75	0.79
		Cohesion Failure Area, %	≥90	100
	Adhesion after Radiation of Artificial Light through Glass and Immersion in Water.	ΔXmean	≥0.75	0.8
		K12.5, c/K12.5	0.50≤K12.5,c/K12.5≤1.10	0.75
		Cohesion Failure Area, %	≥90	100
	Adhesion after NaCl	ΔXmean	≥0.75	0.92
	Atmosphere	Cohesion Failure Area, %	≥90	100
	Adhesion after SO ₂ Atmosphere	ΔXmean	≥0.75	0.9
		Cohesion Failure Area, %	≥90	100
	Adhesion after Cleaning Agent	ΔXmean	≥0.75	0.82
		Cohesion Failure Area, %	≥90	100
	Tear	ΔXmean	≥0.75	0.92
		Cohesion Failure Area, %	≥90	100
Adhesion after Mechanical cyclic treatment	ΔXmean	≥0.75	1.06	
	Cohesion Failure Area, %	≥90	100	
Bubble		Not visible	Not visible	
Volume Contraction, %		< 10	4.3	

	Elasticity recovery, %	<5	3
	Thermalgravimetric analysis	No significant difference	No significant difference
EN 15434	Infrared spectroscopic analysis	No significant difference	No significant difference
Remarks: ΔX_{mean} means the specific value of the Adhesion Strength after Aging and that at standard condition. $R_{u,5}$ means the standard value of adhesion strength.			

◆ **SPECIFICATION**

MF899-25 is one component and neutral cured at room temperature. It has excellent resistance to weather and sealing property, and good adhesion to kinds of materials such as glass, aluminum and steel. MF899-25 can be used to structural glazing and anti-corrosion areas, could meet standards JG/T 475、GB 16776 and ETAG 002 at the same time, and provide 25 years guarantee.

After cured, its unique resistance to weather makes it stable even in worse conditions, and the joint initial design property remains no significant changes for aging and exposure in weather. MF899-25 is still waterproofing, weatherproofing and can bear structural strength.

◆ **COLOR**

Except black, grey and white color, the special requirements from clients on color can be negotiated and manufactured.

◆ **APPLICATION OF STANDARDS**

MF899-25 Silicone Structural sealant fulfills and surpasses the following standards:

- JG/T 475
- GB 16776
- ETAG 002

◆ **ATTENTION**

1. In case of contact with eyes, rinse immediately with plenty of water.
2. Avoid contacting with skins for a long time, and avoid contacting with children.
3. Avoid contaminating foods, medicines or cosmetics.
4. Do a test on adhesive property of project materials before using and refer to MSDS. Get more information on safety use and hazards. As for safety notice which is not mentioned, please refer to relevant specification JGJ 102.

◆ **TECHNICAL SERVICES**

- Adhesion Test
- Compatibility Test
- Materials and samples for projects must be provided for us to do adhesion and compatibility Test.

◆ **METHODS OF APPLICATION**

Surface-cleaning

The sealing joint and assembly parts must be clean, dry and free of all contamination and impurities, such as grease, dust, water logging, frosting, dirties on the surface, remaining glues, assembly accessories and protective coatings.

Injection of sealant

According to relevant requirements, install back-up material, glass block, lining bar for isolation and tapes. Masking tape should be used on adjacent area surrounding the joints to guarantee a clean and good appearance of the sealing line.

For non-porous materials, a good adhesion can be guaranteed without primers. However, the primers are necessary for some certain porous materials. Do adhesion test before commencement of works.

Continuously extrude MF899-25 and fully fill it in the joints (by air-driven injecting gun or other injecting machines). Do adjustment on operating pressure when using air-driven injecting gun to prevent occurrence of bubbles.

Before skin formation on surface of sealant, make it even on back-up materials and on surface of joints, to keep the surface in a neat and smooth condition.

Get rid of smashing tapes after sealing. No liquids like water, soap suds and alcohols in fore-mentioned process.

◆ STORAGE AND SHELF LIFE

For sealant in original package, shelf life will be 12 months store in cool, dry and ventilated places. Use it before the “period of validity” marked on the package.

◆ PACKAGE

Sausage Package
592ml/piece
20pieces/carton

◆ RESTRICTION

This product have not been tested or described for the application on medicines.

Not applicable in the following conditons:

1. Joints exposed in underground water or contacts undergoing excessive frictions.
2. Submerge in the water for a long time.
3. Any building materials extruding grease, plasticizer or solvents, vulcanized or semi-vulcanized rubber.
4. Frosted or humid surface.
5. The region where is closed and cut off atmosphere vapor(moisture curing).
6. Surfaces where paints are used (generally paints cannot be adhered on surface of silicone).
7. No contact with food or other affiliated category.

Table 1 Estimates of sealants for joints of different sizes

Application length of each (592ml) MF899-25 Silicone Structural Sealant (m)

Depth, mm	Width, mm					
	6	9	12	15	20	25
6	16.4	10.9	8.2	6.5	4.9	3.9
9	Not suggested	7.3	5.4	4.3	3.3	2.6
12	Not suggested	Not suggested	4.1	3.2	2.4	1.9

Remarks : the actual sealant amount would slightly change according to joint design, installation position of back-up materials, repairing technologies and consuming amounts.