

# Silicone joint sealant manual

## Product introduction:

Silicone sealant is a new type of joint sealant. Silicone sealant is a kind of solid sealant at room temperature. It has good weather resistance, high stability, low modulus and high elasticity. Silicone rubber has been used in the joint sealing and waterproof of highway and airport pavements, port terminals, high-speed railway tracks, bridge tunnel and other projects in the United States and other countries for more than 30 years. It has never been replaced on a large scale and can effectively protect the concrete slab for a long time. About 82 percent of U.S. construction units currently use silicone sealants to seal joints, according to the American association of concrete pavement.

The GTK 990 is self-leveling type, both of which are single-component neutral curing, specially designed silicone sealant for the long term weather resistance waterproofing of the airport runway, expressway, tunnel, bridge and other concrete or asphalt pavement. It has low modulus, high displacement and good retraction performance. Its displacement capacity is up to level +100/-50. It can adapt to the change of pavement joints. The artificial accelerated weather aging test shows that its excellent weatherability is fully qualified for the harsh test of high and low temperature and strong ultraviolet environment on the concrete pavement.

## 一、 Product features

- 1) easy to use: single-component packaging, easy to use, good extrusion performance within the usual construction temperature range;
- 2) no bottom coating: neutral solidification, compatible with concrete chemistry, firm bonding to concrete chemistry, generally no use of bottom coating;
- 3) long service life: excellent long-term weather resistance aging performance, which will not be damaged by the impact of sunlight, rain, snow, ultraviolet and ozone; Excellent high and low temperature resistance, cure after formation of silicone rubber strip in the low 40 °C to - will not significantly change hard or brittle can still maintain good flexibility, at + 150 °C high temperature is not flowing or degradation;
- 4) high displacement capacity: freely follow the stretching and shear deformation of concrete joints, so that it is not damaged;
- 5) low modulus: moderate low stress is generated when passive deformation is applied to concrete base

# 佛山市佛振特种材料有限公司

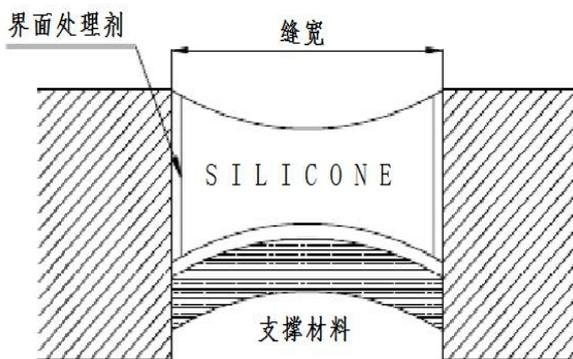
to ensure that the surface of concrete is not damaged;

6) high elasticity and high recovery ability: it can reciprocate the joint movement for many times, with quick response and quick recovery and small permanent deformation.

## 2. The main purpose

- 1) used for joint sealing of airport runway and expressway, which can withstand large displacement;
- 2) for sealing joints and filling joints of other concrete pavement;
- 3) for sealing of subway, tunnel, bridge, etc.

## 二、Conform to the standard:



嵌缝材料应用示意图

## 三、Main technical indicators:

Performance	index	GTK990	Remarks
liquidity	Smooth level off	Smooth and flat, self-leveling	
Sagging degree	mm(Vertical)	≤3	/
	The level of	There is no deformation	/
Extrusion sex, ml/min	≥80	404	
Table dry time, h	≤3	0.4	
Table dry time, %	≥800%	1280	
The tensile strength, MPa	≥1.0	1.01	
Elastic recovery rate, %	≥80 (Set out150%)	81	

# 佛山市佛振特种材料有限公司

The tensile modulus MPa	23℃	≤0.3	0.2	
	-20℃	≤0.3	0.2	
Good adhesion		There is no damage (150%)	There is no damage	
Bonding after hot pressing		There is no damage (±50%)	There is no damage	
The adhesion of the immersion		There is no damage (150%)	There is no damage	
Adhesion after heat treatment		There is no damage (150%)	There is no damage	
Thermal aging	thermo-gravimetric, %	≤8	3	
	crack	no	no	
	pulverization	no	no	

## 四、Conform to the standard

GTK990 meets or exceeds the following criteria:

Industry standard GTK990: SR I N 50LM JC/T 976-2005

American standard ASTM C 920-05 +100, -50, ASTM D 5893-04

## 五、Packaging and color

1) GTK990 is packed in 20 liters of plastic bucket, with a net content of 25kg;

2) all colors are grey or other colors required by the user.

## 六、Storage and validity period

Stored in a cool and dry place under 27 °C, since the production date, storage period of 9 months.

## 七、Technical service

1) provide complete product technical data.

2) bonding test:

The GTK990 silicone joint sealant has excellent adhesion to the concrete and does not need to be

# 佛山市佛振特种材料有限公司

---

coated. However, due to the diversity of concrete configuration and different surface cleaning states; We cannot guarantee that the sealant will be suitable for all road concrete. Small scale adhesion tests must be carried out on site prior to large-scale use in order to make reasonable plans to ensure good adhesion.

## 八、Matters needing attention

- 1) construction should not be carried out in bad weather;
- 2) not suitable for frosting or wet surface;
- 3) should not be used on all materials that can seep oil, plasticizer or solvent, such as the surface of oil impregnated wood;
- 4) it should not be used in places with continuous flooding and oil immersion;
- 5) it should not be used in a close and unventilated place, because the sealant needs to absorb moisture in the air to solidify;
- 6) material surface temperature below 4 °C or more than 40 °C, unfavorable construction.
- 7) the newly cast concrete shall be maintained in dry weather for at least 7 days. In case of rainy days, each rainy day must be added to dry day to guarantee at least 7 days dry curing; For quick completion or quick drying concrete, please contact our technical service staff.
- 8) when the sealant is constructed and installed, it should be lower than the road surface to prevent wear;
- 9) use limit of base material: it is not suitable for copper, lead, galvanized metal surface and polycarbonate material.

## 九、Safety instructions

- 1) this product is completely non-toxic after curing, but it should avoid contact with eyes before curing. If contact with eyes, please rinse with plenty of water and consult a doctor for treatment; Children should be kept away from uncured products.
- 2) please contact our customer service center for technical data related to product safety.

## 十、Dosage estimation

# 佛山市佛振特种材料有限公司

---

**Table 2 construction length of silicone joint sealant per barrel GTK990 (25kg) (estimated, m)**

厚度 mm	宽度 mm						
	6	9	12	15	18	21	24
6	525	351	261	209	174	148	132
9	351	232	174	138	116	100	87
12	261	174	132	103	87	74	64

Note: the actual amount of sealant will be inconsistent due to interface design, mounting position of gasket material, finishing technology and site loss.



Foshan Fozhen Special Materials Co., Ltd.