



Moisture Curing Modified Silicone Adhesive (Tin-Free)

Product Description

FS168W11 has good adhesion to plastics, metals, and glass. The cured product has hardness and toughness. Using dealcoholic neutral resin, the erosion of the material is minimized. It is environmentally friendly, mild and odorless adhesive. It is easy to use and has fluorescent detection function. It is a kind of elastically modified silicone that can be widely used.

Features

1. This product does not contain tin compounds.
2. This resin has flexible properties and fracture energy.
3. This product has stable properties in a wide range of temperature.
4. This product does not volatilize low molecular weight siloxane compounds. It will not pollute the electronic devices.
5. This resin is one component product without mixing. It is easy to use.
6. This product has stable properties and is able to storage in the room temperature.
7. This resin will fast cure in the air. It can have surface dryness in a short time.
8. This product complies to the 2011/65/EU RoHS regulations.
9. This product complies to chlorine < 900ppm, bromine < 900ppm, chlorine + bromine < 1500ppm.
10. This product obeys UL94V-0 regulations.

Typical Uncured Properties

	FS168W11
Composition	Polyether resin
Appearance	Liquid
Color	White
Viscosity*25°C, S14 10rpm, cps	40,000-60,000
Thixotropic Index	>2.0
Specific Gravity@25°C	1.65
Solvent Content, %	0

*This value is for reference. Please refer to COA for the actual value.

Typical Curing Properties

Surface Dry Time, 25°C, min	7
Initial curing time, 25°C, min	30
Full Curing Time, 2.5mm, 25 °C *50%RH, hrs	12
Full Curing Time, 2.7mm, 25 °C *50%RH, hrs	16
Full Curing Time, 3.2mm, 25 °C *50%RH, hrs	1
Full Curing Time, 3.8mm, 25 °C *50%RH, hrs	3
Full Curing Time, 5.6mm, 25 °C *50%RH, hrs	7

Direction of Use

1. It should be applied to a clean surface which is free of dirt, grease or mold release. In many cases, a simple solvent wipe is sufficient.

2. Pour or brush this product onto the substrates, it does not recommend to stir to avoid interfusing the air. This product will be cured with the air. The curing properties depend on its thickness, curing temperature and relative humidity.
3. The bottom of the resin might not be cured in thicker application, such as casting, because the bottom of the resin contacts with moisture rarely. It is recommended to prolong the curing time in order to let the moisture spread from the surface to the bottom. It can also cast the resin two times. Cast the resin to the half height at the first time. When the surface is tacky, cast the resin for the second time.
4. Use this product as soon as possible after opening the original packages. When not using, please replace the lid tightly and store in a cool and dry place.
5. Cure time on the really part will depend upon factors such as part geometry, materials to be bonded, bondline thickness and humidity. Cure schedule should be confirmed with actual production parts and equipment.
6. The cured resin is not harmful to human when touching the skin.

Typical Cured Properties

Glass Transition Temp., °C	<-35
CTE *2 ppm, <Tg	168
CTE *2 ppm, >Tg	204
Hardness (Durometer) ASTM D2240-03, Shore A	80
Water Absorption Ratio(25 °C /24hr), %	1.15
Elongation, %	105
Volume Shrinkage, %	1.40
Young's modulus, MPa	3.17
Shear Strength, PC vs. PC, kg/cm ²	25
Shear Strength, ABS vs. ABS, kg/cm ²	15
Shear Strength, PMMA vs. PMMA, kg/cm ²	43
Shear Strength, PET vs. PET, kg/cm ²	22
Shear Strength, PVC vs. PVC, kg/cm ²	39
Shear Strength, Cu vs. Cu, kg/cm ²	43
Shear Strength, SUS vs. SUS, kg/cm ²	36
Shear Strength, Glass vs. Glass, kg/cm ²	27
Shear Strength, Al vs. Al, kg/cm ²	28
Peel Strength, NBR, kg/25.4mm	2.5
Peel Strength, SBR, kg/25.4mm	2.6
Peel Strength, EPDM, kg/25.4mm	1.8
Peel Strength, Silicone Rubber, kg/25.4mm	0.3
Thermal Conductivity W/mK	0.50
Surface Resistivity, ohm	1.02* 10 ¹²
Volume Resistivity, ohm-cm	1.03* 10 ¹¹
Dielectric Constant 100Hz	3.8 (0.02)
Dielectric Constant 1KHz	3.4 (0.04)
Dielectric Constant 1MHz	3.0 (0.05)
Dielectric Strength, KV/mm	14
Temperature Range, °C	-40~100

* CTE: Coefficient of Thermal Expansion

The data contained in this bulletin is provided only as a guide for evaluation/consideration. These material characteristics are typical properties that are based on a limited number of samples tested in the laboratory. We cannot assume responsibility for results obtained by others or whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any product or method. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide.

Thermal Strength/Thermal Aging

Thermak Strength, AI vs. AI after curing, 25°C*50%RH*7 days

Temperature	Shear Strength, kg/cm ²
25°C	28
50°C	28
80°C	26
100°C	16
120°C	10
150°C	9

Thermal Aging, -40°C /1hr ~ 100°C / 1hr, Shear Strength, kgf/cm²

Cycles	Shear Strength, kgf/cm ²
0	28
100	28
200	32
300	35
400	35
500	39

High Temperature and Humidity, 80°C*90%RH, Shear Strength, kgf/cm²

Time, hr	Shear Strength, kgf/cm ²
0	28
24	28
72	28
168	33
500	39
1,000	48

Storage and Shelf Life

170ml Laminated hose, 300ml HDPE Plastic Pipe Storage and Shelf Life:

This product should be kept without any possibility of moisture exposure. Replace the lid immediately after use. Shelf life of this product is six months when stored in dark place below 14-34°C in original, unopened containers.

30ml, 50ml Plastic syringe put in vacuum bag with a desiccant in an aluminum foil bag:

This product should be kept without any possibility of moisture exposure. Replace the lid immediately after use. Shelf life of this product is six months when stored in dark place below 14-34°C in original, unopened containers.

Caution

Some findings indicate a lack of potential for carcinogenicity with the compositions of this product by long term recurrent application to the skin. However, contact with skin is likely to produce mild transient reddening. It is important to remove adhesive from skin with soap and water thoroughly. DO NOT use solvents for cleaning hands. This product is of moderate acute toxicity by swallowing. If swallowed, call a physician. Avoid contact with eyes. In case of contact, flush with water for at least 15 minutes and get medical attention immediately. For specific information on this product, consult the Material Safety Data Sheet

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