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Technical Data Sheet

FS 1442

Moisture Curing Modified Silicone Adhesive

Product Description

FS1442 is moisture curing modified silicone adhesive for plastics, metals and glass bonding. This product is cured by the moisture in the air. The curing system of this product is alkoxy. It is not stinky and has fast curing properties. This resin is different from the traditional PU which contains isocyanate. This product has better adhesion strength than silicone type products. It is well suited for electronic devices casting and bonding.

Features

1. This product is used for various substrates bonding.
2. This resin has flexible properties and absorb 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 prodcut complies to the 2011/65/EU RoHS regulations.

Typical Uncured Properties

	FS1442
Composition	Polyether resin
Appearance	Liquid
Color	Colorless
Viscosity*25°C, S14 10rpm, cps	18,000~40,000
Specific Gravity	1.05
Solvent Content, %	0

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

Typical Curing Properties

Surface Dry Time, (26±1°C, 57±5 %RH) ,min	7
Full Curing Time, 25°C, days	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 propeties depend on its thickness, curing temperatrue 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 rid tightly and store in a cool and dry place.
5. Cure time on the really part will depend upon fators such as part geometry, materials to be bonded, bondline thickness and humidity. Cure schedule should be confirmed with actual production parts and equipment.

Typical Cured Properties

Hardness (Durometer) ASTM D2240-03, Shore A	40
Young's modulus, MPa	2.4
Elongation, %	101
Surface Resistivity, Ω	$2.0*10^{12}$
Volume Resistivity Ω·cm	$2.2*10^{11}$
Glass Transition Temp.,°C	< -40

Lap Shear Strength (kgf/cm²)

Al vs Al	39
SUS vs SUS	37
Cu vs Cu	40
PC vs PC	31
PVC vs PVC	35
PET vs PET	19
PMMA vs PMMA	37
ABS vs ABS	15
PA vs PA	10

Different Substrates Lap Shear Strength (kgf/cm²)

Al vs PC	41
Al vs PMMA	42
SUS vs PC	38

Initial Curing Strength (kgf/cm²)

	0.5 hr	1 hr	2 hr	4hr
PCvs PC	17	23	27	-
Al vs Al	-	-	7	-

Curing Depth

Test Conditions: 30 °C, 50% RH in PP container

Time (Day)	Curing Depth (mm)
1	2.7
2	3.6
3	4.3
7	6.6

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^{o}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.