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Technical Data Sheet

GM 005

Photo-curing Adhesive for Glass and Metals Bonding

Product Description

GM005 is photo-curing adhesive and fast-cure under the ultraviolet (365nm) or the visible light (436nm). After curing, the resin offers toughness, thermal shock resistance. Because of medium viscosity, the materials will not slide after curing. GM005 is suited for glass, metals and compound metals bonding.

Features

1. This resin has toughness, shock resistance and thermal shock resistance after curing under the ultraviolet.
2. This product exhibits good adhesion strength for glass, aluminum, stainless steel or compound metals.
3. The peel strength for glass and stainless steel can be above 200kg/ cm^2.
4. This product complies to the 2011/65/EU RoHS regulations.

Typical Uncured Properties

	GM005
Appearance	Liquid
Color	Colorless
Viscosity 25°C, S14 50rpm, cps	5,000~7,500
Refractive Index n_D^{20}	1.4748
Solvent Content, %	0
Heavy Metal Content, %	0

Typical Curing Properties

Recommended Wavelength, nm	310~365
Minimum Light Intensity, mW/cm^2	> 50
Minimum Light Energy, mJ/cm^2	1,500~3,000

*Avoid the resin exposure to light.

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. For maximum bonding strength apply adhesive evenly to both surfaces to be jointed.
3. Cure time on the really part will depend upon fators such as part geometry, materials to be bonded, bondline thickness and efficiency of the UV light. Cure schedule should be confirmed with actual production parts and equipment.
4. This product may cause skin irritation to sensitive personnel.

Typical Cured Properties

Glass Transition Temp.(MDSC), °C	-13
Durometer Hardness, Shore D	72
Water Absorption Ratio (25°C /24hr), %	2.91
Elongation, %	143
Temperature Range, °C	-40~100

Mechanical Test

Specimen Material: Tempered Glass/ Stainless Steel (304)
Size: Length 30mm X Width 25mm X Thickness 3mm; Test area is ~1 cm^2

Item	Specimen cm^2	Maximum Strength, kgf	Bonding Strength kgf/cm^2	Description of Material Failure
GM005	0.94	285.29	303.47	Cohesive Failure
GM005	1.17	353.88	303.01	Glass Substrate Failure
GM005	0.96	283.14	294.08	Glass Substrate Failure
GM005	0.87	270.31	309.57	Glass Substrate Failure
GM005	1.00	278.82	280.10	Cohesive Failure
Average Value	0.99	294.29	298.05	

Storage and Shelf Life

This product should be kept without any possibility of light exposure. Replace the lid immediately after use. Shelf life of this product is eight 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.