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Technical Data Sheet

NC 884-8

One Component Acrylic Adhesive for Die Bonding

Product Description

NC884-8 is one component acrylic resin adhesive for electronic devices. This product has fast curing properties. It is able to reduce the working time and increase the efficiency at the same time. This resin develops strong structual bonds and has excellent dimensional stability. This product exhibits high thermal conductivity, and it can be suitable for more applications.

Features

1. The hardening surface will not exhibit a surface oiliness. It has good insulation.
2. This product has high thixotropic properties. When using, this product will not be stringing. It has more applications.
3. This resin has high Tg, high thermal conductivity and low shrinkage. It is suited for underfill applications.
4. This product complies to the 2011/65/EU RoHS regulations.
5. This product complies to chlorine < 900ppm, bromine < 900ppm, chlorine + bromine < 1500ppm.

Typical Uncured Properties

Appearance	Liquid
Color	Pink
Viscosity 25°C, S14 50rpm, cps	10,000~16,000
Viscosity 25°C, S14 5rpm, cps	30,000~50,000
Thixotropic Index	2.2
Average Particle Size, μm	30
Maximum Particle Size, μm	50

Typical Curing Properties

Pot Life 25°C, hr	24
Through Cure Time 100°C, seconds	120
Through Cure Time 110°C, seconds	90

Direction of Use

1. The package of this resin which is refrigerated in -40°C ~ -5°C can be brought to ambient conditions by allowing to stand at room temperature for 1 hour. Do not loosen container cover before temperature equilibration.
2. 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.
3. After heat curing stage, cool down the part gradually can minimize the thermal stress.
4. Cure time on the really part will depend upon fators such as part geometry, materials to be bonded, bondline thickness and efficiency of the oven. Cure schedule should be confirmed with actual production parts and equipment.
5. The higher curing temperature, the faster curing speed. It is recommended to cure this product at more than 100°C.

Typical Cured Properties*[1]

Glass Transition Temp., (TMA), ^{o}C	120
CTE*[2] (60~80°C) ,μm/m/ ^{o}C	60
CTE*[2] (120~140°C) ,μm/m/ ^{o}C	150
Durometer Hardness, Shore D	80
Specific Gravity	1.4
Water Absorption Ratio (25°C /24hr), %	0.35
Water Absorption Ratio (50°C /24hr), %	2.10
Water Absorption Ratio (80°C /24hr), %	4.70
Water Absorption Ratio (97°C /1.5hr), %	3.50
Thrust*[3], kg	> 20
Thrust*[4], kg	> 20
Thermal Conductivity W/mK	0.5
Thermal Resistance m^{2}K/W	0.0004

*[1] Cure Condition：100°C / 2min
*[2] CTE: Coefficient of Thermal Expansion
*[3] Test product: NC884-8. Test temperature 25°C.
   Test material: Glass, bonding area: 3 x 0.3cm^2.
*[4] Test product: Competition. Test temperature 25°C.
   Test material: Glass, bonding area: 3 x 0.3cm^2.

Storage and Shelf Life

This resin should be kept without any possibility of moisture and heat exposure. It should be storage at -40°C ~ -5°C before opening the containers. This product has an eight month minimum shelf life.
Before using, it should place this product at 14~34°C for 1 to 2 hours. The properties will be changed when replace this product at room temperature for long time..

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 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.