

OP 955-4 HB LED Silicone

Description

OP 955-4 is a clear transparent, colorless silicone system suitable for encapsulation of high brightness surface mount LED devices like PLCC. It is recommended especially for encapsulation of high power blue LED chips where UV resistance and high temperature resistance are required. This silicone system has high hardness and yet provides low stress for excellent performances in temperature cycling, high temperature storage, high humidity storage, minimal light output degradation and outdoor weathering. It is enhanced for

minimal light output degradation and increased adhesion to most substrates.

Applications

1. Encapsulation of high power, white-light LED devices like PLCC packages.

Guidelines for Use

1. Weigh Part A resin into the mix container first followed by the Part B cross-linker. Stir with an electric mixer until the silicone is homogeneously mixed and no lines of different refractive indices are observed.
2. It is advice to agitate or stir the Part B crosslinker before use.
3. Remove the air bubbles in the silicone mix by vacuum degas at 0.001 mbar (0.1 Pa) for 15 minutes.

Properties

Property	Test method	Unit	Typical value		
			Part A Resin	Part B Crosslinker	Mixed
Chemical type	-	-	Polysiloxane	Polysiloxane	Polysiloxane
Appearance	Pen 10	-	Colorless transparent liquid	Translucent liquid	Colorless transparent liquid
Mix ratio, by weight	-	-	10.00 ± 0.01	1.00 ± 0.01	-
Shelf life at 25 °C	-	Month	12	12	-
Pot life at 25 °C	Pen 26	Hour	-	-	24
Adhesion Strength		Mpa			4.3
Transmittance		%			>95
Viscosity, CAP 2000+, 10rpm, 25°C	Pen 44	cP	5,130	70	3,000
Refractive index at 25 °C	Pen 28	-	1.4095	1.4070	1.41
Hardness, cured at 160°C for 2 hours	Pen 29	Shore A	-	-	59
Light transmission at 450nm	Pen 40	%	-	-	>90

4. Dispense the silicone and cure it at 160°C for 2 hours.
5. Avoid contamination with heavy metals, amines, sulfur compounds and moisture. The silicone may not cure properly when contaminated.
6. Wear rubber gloves when handling silicone resins and crosslinkers.
7. Wipe off any uncured silicone spillage with tissue or cloth wetted with isopropanol (IPA) or acetone.
8. Flush with dry nitrogen and close tightly for all remaining silicone resin in bottle.

Recommended Cure

Temperature	Duration
160°C	2 hours

Storage

Store both Part A resin and Part B cross-linker in a cool, dried place to prolong shelf life.

Packaging

- 500g bottle
- 1 kg bottle
- 5 kg bottle

Environment, Health & Safety

This product is RoHS compliant. It does not contain any known carcinogenic, mutagenic or teratogenic components.

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