

Description

TH833-3 is a two-part thermally conductive silicone. It is designed with grey colored thermally conductive silicone system suitable for potting and thermal interface material in electronic devices. This two part silicone can be cure very fast over 120°C. This silicone system has moderate hardness and yet provides flexible to give low stress for excellent performances in temperature cycling, high temperature storage and high humidity storage. The silicone is also formulated with flame retardant, longer pot life stability and good adhesion strength on glass, some metals and plastics.

Features

- Thermally conductive
- Addition cure silicone, no by-product
- Solventless
- Flame retardant
- Good adhesion to glass & aluminum

Applications

- Thermal conductive silicone for used as potting, encapsulant, coating and form in place thermal interface gap filler for electronic device.

Uncured Properties	Typical Value	Unit	Test Method
Color (Part A)	Dark grey	-	PEN 10
Color (Part B)	White	-	PEN 10
Color (Mix)	Grey	-	PEN 10
Viscosity at 25°C (Part A)	11,659	cP	PEN 144
Viscosity at 25°C (Part B)	24,745	cP	PEN 144
Viscosity at 25°C (Mix)	18,221	cP	PEN 144
Mix ratio (A:B)	1:1	-	N/A
Density (Part A)	2.86	g/cm ³	PEN 14
Density (Part B)	2.83	g/cm ³	PEN 14
Density (Mix)	2.85	g/cm ³	PEN 14
Pot Life at 25°C	1	Hour	PEN 144
Cured Properties		Unit	Test Method
Hardness, cure at 120°C/30min, Shore A	60	-	PEN 29
Thermal conductive	2.0	W/mK	ASTM D5470
Thermal resistance	2.8	Kcm ² /W	ASTM D5470
Dielectric breakdown voltage	27	kV	ASTM D149-09
Dielectric strength	18	kV/mm	ASTM D149-09
Volume resistivity	1.9 x 10 ¹³	Ohm-cm	PEN 65
Flammability, UL94 V-0 requirement	V-0	-	PEN 55
Adhesion Properties	Typical Value	Unit	Test Method
Ceramic chip to FR4	8.40	Kgf/cm ²	PEN 93
Ceramic chip to Aluminum	11.37	Kgf/cm ²	PEN 93

* The values above are tested based on batch to batch basis. These values are not used as a basis for preparing specifications.

* PEN is referring to Penchem's standard test method; ASTM is for test reference only.

* Viscosity was measured by MCR72, PP25-1, constant shear rate = 10s⁻¹, with gap 0.3mm.

* PEN 55 – UL94 as reference test method, tested at 3.0mm thick samples.

Guideline of Use

Direction for use

- 1) Stir filled material thoroughly prior to use.
- 2) Mix Part A resin and Part B crosslinker at recommended standard ratio, then stir it with a suitable spatula or mixer until it is uniform.

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- 3) Degas thoroughly in a vacuum chamber for 5 minutes at -1 kg/cm^2 / -76 cmHg . Continue defoaming until no bubbles observed. Side walls of the container should be four times as tall as liquid resin to contain the foaming during vacuum.
- 4) Apply the product on area to be filled.
- 5) This product may be dispensed with a variety of manual and automatic applicators or other equipment as required. The user is responsible to determine the suitability of the product for all intended uses.
- 6) It is recommended to use the product within work life. The work life is varied by difference environment condition and application.
- 7) The substrate should be clean and free from grease, mould release, substance containing chemicals (nitrogen, sulphur, phosphate, tin) or other contaminants prior to dispensing the adhesive.

Recommended Cure

Cure condition:

25°C/24hrs

or

120°C/30min

Cure time and temperature may vary based on volume, application requirements, as well as substrate, curing equipment, oven loading and actual oven temperatures.

Storage & Shelf Life

This product has a 6 months shelf life from date of manufacturing, unless otherwise specified, when stored at room temperature in the original and unopened container.

Packaging

- 1kg plastic pail
- 5kg plastic pail

Other packaging enquiry, please contact our sales department.

Environment, Health & Safety

This product is intended for industrial use only. For more safety information, please refer to Product Safety Data Sheet (SDS).

General Information

All right reserved. This information in this document is subjected to change without notice.

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