

Opti-tec 5020-2 Clear Epoxy Potting Compound



Description

Opti-tec 5020-2 is a clear, two component, low viscosity optical epoxy which will cure in thick sections at room temperature. In thin sections, it is clear and transparent. In thicker sections, it can take a yellow or straw tint. Opti-tec 5020-2 is designed for potting and encapsulation of components where optical clarity, good wetting and low viscosity are important.

Opti-tec 5020-2-B is a black version with similar properties. See Specifications for details.

Features & Benefits

- Available in clear or black versions
- Degree of flexibility which reduces internal stresses
- Relatively low level of exotherm during cure making it safe to use with delicate components
- One hour pot life after mixing and cures within 24 hours at room temperature in thick sections
- Low viscosity allowing it to fill voids without air entrapment
- High gloss finish even when cured under high humidity
- Available in easy-to-use twin packs or bulk

Applications

- Potting or encapsulation
- Encapsulation of larger components
- Optical assembly, optical filters, LEDs
- Optoelectronics
- Void filling in cables

Specifications

Part number change: as of version 8.0, October 2021, the part number of this product changed from OPT5020-1 to OPT5020-2 and OPT5020-1-B to OPT5020-2-B. This is due to an unavoidable change in a formulation component. This change does not affect the product data-sheet specifications. The new formulation has passed internal testing and is deemed to be equivalent.

OPT5020-2 Typical Properties

Mix ratio	2:1 resin to hardener
Mixed viscosity	1 Pa.s (1000 cps) @ 25°C
Colour	Clear/straw
Density	1.15
Pot life	75 minutes @ 25°C



Contact us for more information about our potting compounds

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Cured Properties

Hardness, Shore D	60-65
Temperature range	-55 to 115°C
Tensile strength	50 MPa
Dielectric strength	13 kV/mm
Dielectric constant	4
Volume resistivity	14 ¹⁴ ohm.m
Shelf life	12 months from date of manufacture in original sealed containers

OPT5020-2-B Typical Properties

Mix ratio	2:1 resin to hardener
Mixed viscosity	1 Pa.s (1000 cps) @ 25°C
Colour	Black
Density	1.15
Pot life	75 minutes @ 25°C

Cured Properties

Hardness, Shore D	60
Temperature range	-55 to 115°C
Tensile strength	50 MPa
Dielectric strength	13 kV/mm
Dielectric constant	4
Volume resistivity	10 ¹⁴ ohm.m
Shelf life	12 months from date of manufacture in original sealed containers

Cure Schedule (OPT5020-2 and OPT5020-2-B)

Bondline Temperature	Time
25°C	24 hours
60°C	4 hours

Rate of cure will depend on temperature and volume. Thin films will take 2-3 days at 25°C.

Storage and Shelf Life

12 months at 25 +/- 10 °C

Many epoxy resin systems are prone to crystallization as epoxy resin is a super-cooled fluid. This condition may give the product a gritty or grainy appearance (or hazy in clear products). Products in this state will not usually cure to normal and expected properties. In extreme cases it may appear solid and

cured. Fluctuating temperatures (within 5 to 50 °C) aggravate this phenomenon. Heating the individual component to 50 to 60 °C while stirring can usually restore products to original state.

Health and Safety

Epoxy resin systems may cause sensitisation by skin contact or inhalation may be corrosive, harmful or toxic. It is therefore strongly recommended that skin and eye contact is avoided by the using of appropriate personal protective equipment such as gloves, safety glasses or goggles and overalls.

Wash any contamination from the skin immediately and thoroughly and do not eat, smoke or drink in the working vicinity. Under normal working conditions a good source of ventilation is adequate, however if the material is heated, or where vapour levels are likely to exceed the occupational exposure limits appropriate respiratory protection must be worn.

Local exhaust ventilation (LEV) may be required especially for curing ovens or where large volumes of material are curing.

The above is given as a guide only; please refer to IRS2012-1 safety data sheet individual/specific advice.

Useful Resources

[Product webpage](#)

Warranty

Statements, technical information and recommendations contained herein are based on tests we believe to be reliable but they are not to be construed in any manner as warranties expressed or implied. The user shall determine the suitability of the product for his intended use and the user assumes all risk and liability whatsoever in connection therewith.