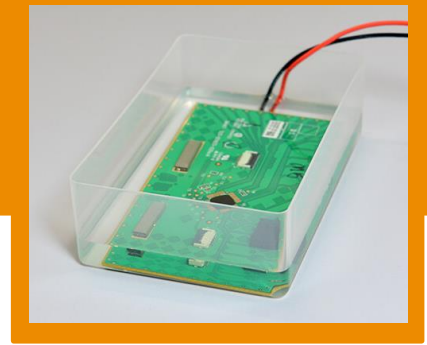


Opti-tec 4200

Optically Clear Polyurethane Encapsulant & Potting Compound



Description

Opti-tec™ 4200 is a clear, water-white polyurethane resin designed for the encapsulation of electronics, LEDs, electrical products and other items where high transparency and aesthetics are important. Opti-tec 4200 optically clear potting compound has excellent non-yellowing colour stability, due to the incorporation of both UV resistant base materials and the addition of UV stabilisers and antioxidants.

Opti-tec 4200 is used for a range of applications from high value LED panels to decorative giftware (e.g. flower impregnation). It is also an excellent resin for the doming of badges, labels and decals.

Opti-tec 4200 is available in a harder version (Opti-tec 4210) and a translucent milky-white version (Opti-tec 4220).

Features and Benefits

- Clear, water-white, non-yellowing
- Excellent long term UV stability
- Scratch and mark resistant
- Non-toxic
- Easy to mix and process
- Very low viscosity
- Excellent penetration and air release properties
- Low shrinkage
- Low exotherm

Applications

- Protection of LEDs – LED bars, LED arrays, luminaires
- LED potting or LED encapsulation
- Electronics potting
- Dome coating of labels and badges
- High quality, clear casting

Specifications

Typical Properties	Mixed	Resin	Hardener
Colour	Clear	Clear	Clear
Specific gravity (g/ml)	1.11	1.06	1.16
Viscosity mPa.s @ 25°C	600	600	600
Mix ratio by weight	0.92:1		



Contact us for more information about our potting compounds

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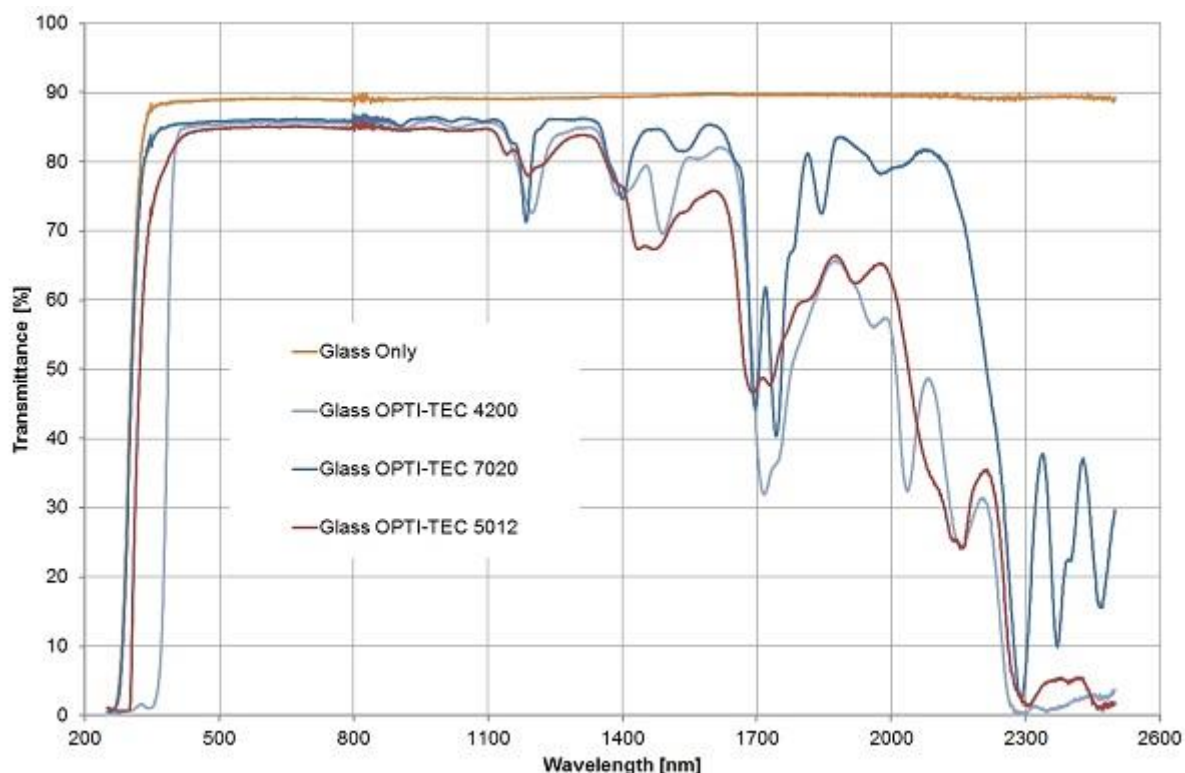
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Typical Properties	Mixed	Resin	Hardener
Mix ratio by volume	1:1		
Cured Properties			
Shore hardness	A75		
Operating temperature (application & geometry dependent)	-55 to +120°C		
Thermal conductivity	< 0.21 W/mK		
Tensile strength	~ 15 mPa		
Elongation at break	100%		
Coefficient of linear expansion	100-150 pp/m°C		
Volume resistivity	< 1.3 x 10 ¹² ohm.cm		
Surface resistivity	< 1.4 x 10 ¹² ohm		
Dielectric strength	20 kV/mm		
Water absorption	1.17% (30 days @ 25°C)		
Refractive index	1.47-1.48		
Opti-tec 4200 is RoHS compliant and contains 0% REACH SVHC			

Optical transmission of Opti-tec 4200, Opti-tec 7020, Opti-tec 5012



Cure Schedule

Stage	Time
Pot life	10 minutes
Gel time	20 minutes
Tack free cure	40 minutes
Minimum cure schedule	36 hours @ 20-25°C 4 hours @ 40°C 2 hours @ 60°C

Typical values – will vary according to mass, film thickness and application. Higher cure temperatures will result in greater cure shrinkage and exotherm.

Storage and Shelf Life

12 months at 25 +/- 10 °C

Material stored in the original unopened containers under cool dry condition between 15° and 25°C will have a shelf life of at least one year.

Once used the containers must be kept sealed to prevent effects from water, air or contaminants.

Health and Safety

Polyurethane 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 OPT 4200 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.