

Opti-tec 4210 Optically Clear, Hard Polyurethane Encapsulant and Potting Compound



Description

Opti-tec 4210 is a two-part, high hardness, room temperature curing polyurethane resin designed for the potting and encapsulation of electronic devices requiring very high clarity. **Opti-tec 4210** has excellent outdoor weathering properties, due to the incorporation of both UV resistant base materials and the addition of UV stabilisers and antioxidants. **Opti-tec 4210** is a harder version of [Opti-tec 4200](#).

Features & Benefits

- Water clear – for high clarity potting, encapsulating, casting
- Very hard, Shore D80 – resists scratching and marking
- Excellent long term UV stability – can be used outdoors
- Low viscosity – easy to mix and process
- High mechanical strength

Applications

- Potting of LED lighting projects, including LED tracks, arrays, luminaires
- Protection of electronics located outside or walked on; uplighters
- Optical instruments
- High quality casting resin
- Lens forming

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Opti-tec 4210 can be used to encapsulate LED uplights

Specifications

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	Resin	Hardener	Mixed
Colour	Clear	Clear	Clear
Specific gravity (g/ml)	1.05	1.13	1.09
Viscosity m.Pa.s @ 25°C	2500	1200	1700
Mix ratio by weight	0.93:1		
Mix ratio by volume	1:1		
Curing (typical values – will vary according to mass and application. Higher cure temperatures will result in greater cure shrinkage and exotherm)			
Pot life (100g mix @ 20-25°C)	30 minutes		
Gel time (100g mix @ 20-25°C)	40 minutes		
Light handling	48 hours @ 20-25°C 24 hours @ 40°C 12 hours @ 60°C		

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	Resin	Hardener	Mixed
Full cure	72 hours @ 20-25°C 24 hours @ 40°C 12 hours @ 60°C		
Cured properties			
Water absorption	0.87% (30 days @ 25°C)		
Shore D hardness	80		
Operating temperature (application & geometry dependant)	-55 to +120°C		
Thermal conductivity	0.25 W/mK		
Tensile strength	26 mPa		
Elongation at break	5-10%		
Compressive yield strength	30 mPa		
Coefficient of linear expansion	60-80 pp/m°C		

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	Resin	Hardener	Mixed
Volume resistivity	3 x 10 ¹⁴ ohm.cm		
Surface resistivity	3 x 10 ¹⁵ ohm		
Electric strength	20 kV/mm		
Refractive index	1.47-1.48		
Opti-tec 4210 is RoHS compliant and contains 0% REACH SVHC. Mercury free.			

Ordering Information

Opti-tec 4210 is available in bulk, cartridges and twin packs.

Part number	Description
OPT4210-50G	Clear Hard Polyurethane Encapsulant – 50g double syringe cartridge

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Part number	Description
IDM805001	Syringe Gun – for 50g cartridges
OPT4210-250G	Clear Hard Polyurethane Encapsulant – 250g twin pack sachet
OPT4210-1KG	Clear Hard Polyurethane Encapsulant – 1 kilogram kit

For optimal results, store in conditions that aren't humid and aren't affected by direct sunlight. Store away from strong bases, strong acids, strong oxidising agents, water, amines and alcohols. Keep in the original packaging and store in a cool, well-ventilated area. Keep container tightly closed.

Supplied by:

intertronics

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