Opti-tec 7020 Optically Clear Silicone Potting Compound

Description

Opti-tec™ 7020 Optically Clear Silicone Rubber Potting Compound is a two part, clear liquid silicone elastomer which will cure at room temperature or can be accelerated at elevated temperatures. It has a low viscosity, which allows for ease of flow around complex parts, providing electrical insulation and shock resistance. Its combination of transparency, non-yellowing and compliance makes it suitable for encapsulation of sensitive electronic or opto-electronic parts (e.g. LEDs), protecting the components from vibration, moisture and atmospheric contaminants.

Features & Benefits

- Optically clear
- Compliant
- Room or low temperature cure
- Non-yellowing catalyst system
- Low shrinkage
- Excellent for protecting LEDs and solar applications
- Convenient 10:1 mixing ratio for use in automatic dispensing equipment or hand mixing
- Low viscosity which allows for ease of flow around complex parts, providing electrical insulation and shock resistance
- Contains no solvents
- Has a chemical composition which provides hydrolytic stability and reversion resistance. It is an addition cure silicone with a platinum catalyst.

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Applications

- Optical assembly
- Opto-electronics, photonics, LEDs
- Optical encapsulation & glob topping, casting, potting
- Solar panels
- Electronics potting

Opti-tec 7020 is available in twinpacks or in bulk.

For bulk, weigh 10 parts of Part A to 1 part of Part B. Allowable tolerance on the measured weight for either Part A or Part B is +/-2.5%. The mixing container should be 4 to 5 times larger than the volume of silicone. Use stainless steel, HDPE, polypropylene, etc. Using clean tools, thoroughly mix the A and B components.

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The twinpack sachet is a clear film sachet, with the resin and hardener separated by a removable clip and rail divider. Click here for twinpack mixing instructions.

Care should be taken to avoid excessive aeration. For many applications, natural degassing will be sufficient. If degassing is required, intermittently evacuate at 20-40 mbar for 15-30 minutes. Leave for a few minutes after releasing the vacuum to allow surface bubbles to collapse.

Cure begins as soon as the components are mixed in the recommended ratio. Complete cure is normally achieved in 16 to 24 hours at ambient temperatures of 20-30°C. Cure can be accelerated by heating to 50-120°C.

Specifications

Uncured properties	
Colour	Part A – clear
	Part B – clear
	Mixed – clear; colourless
Viscosity (mPa.s)	Part A – 4000

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Uncured properties	
	Part B – 500
	Mixed – easily pourable
Specific gravity	Part A – 1.02
	Part B – 1.01
Mix ratio	10:1 Part A to Part B
Pot life (@ 23°C)	4 hours
Cure schedule (approx maximum time)	25°C – 20 hours
	100°C – 60 mins
Cured properties (1 hour @ 100°C)	
Hardness, Shore A	40
Temperature range	-60 to 200°C
Tensile strength	4.8 MPa
Elongation at break	100%

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Uncured properties	
Linear shrinkage	< 0.1%
CTE (ppm/°C)	275
Dielectric strength (kV/mm) [ASTM D-149]	20
Dielectric constant @ 1000Hz [ASTM D-150]	2.69
Dissipation factor @ 1000Hz [ASTM D-150]	0.0006
Volume resistivity (ohm-cm) [ASTM D-257]	1.7×10^{15}
Thermal conductivity (W/m K)	0.18
Specific heat (kJ/kg)	1.255
Refractive index @ 589nm	1.405
Transmittance @ 400nm	90.3%

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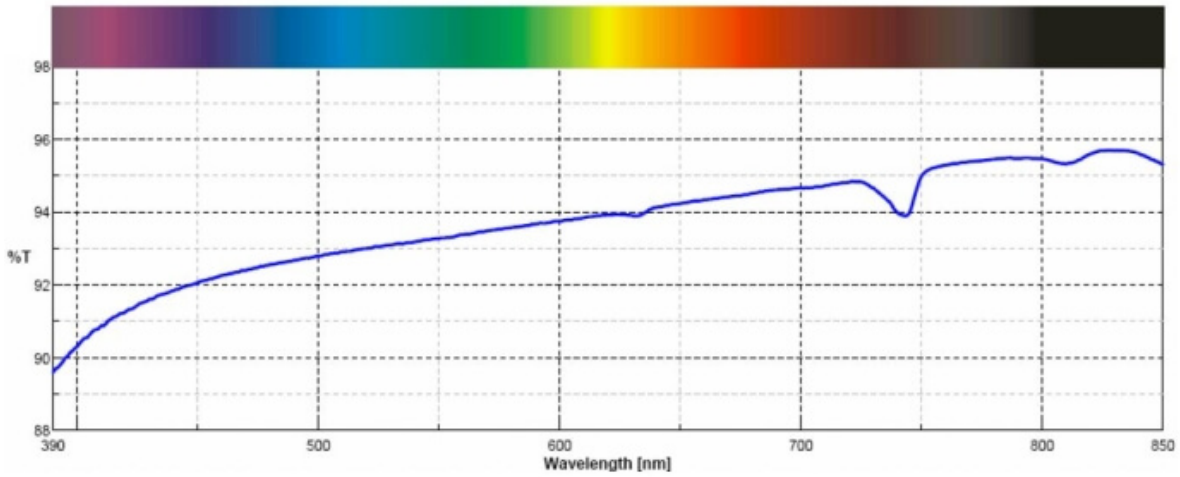

Transmittance of Opti-tec 7020 @ 1cm path length

Ordering Information

Opti-tec 7020 is supplied in matched kits in a 10 to 1 ratio of Part A to Part B – standard size is 1.1kg total. Alternatively, Opti-tec 7020 is supplied in pre-weighed 250 gram twinpacks.

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Part number	Description
OPT7020-1.1KG	1.1kg kit

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Part number	Description
OPT7020-250G	250g twinpack

Keep the product in clearly labelled containers.

Supplied by:

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