

OP 4047

Optically Clear Silicone Potting Rubber

Typical Properties			
Property	Unit	Value	Test Method
Color / Component		Transparent Water Clear	Visual
Density	Gram /cc	0.98	ASTM D792
Viscosity at 25°C	cP.s	16,500	ASTM D2196
Property as Cured			
Color		Optically Clear	Visual
Hardness	Shore A	50	ASTM D2240
Refractive Index, @589 nm	n _D (25 °C)	1.41	ASTM D542
% Transmittance	360 nm to 1000 nm	97% to 99%	ASTD D1003
Tensile Strength	Mpa	5.5	ASTM D638
Elongation	%	220	ASTM D638
Dielectric Constant	@100Hz	2.5	ASTM D150
Dissipation Factor	@100 Hz	< 0.003	ASTM D150
Dielectric Strength	Volt/mil AC	> 500	ASTM D149
Volume Resistivity	Ohm-cm	> 10E+14	ASTM D257
Coefficient of Thermal Expansion	ppm/°C	250	IPC-TM-650
Tg	°C	-120	TGA
Useful Temperature Range	°C	-55 to 200	TGA
Shelf Life	Month	6@ < 4 °C	Viscosity double
Cure Profile			
Cure at 80°C	Minutes	90	DSC
Cure at 125°C	Minutes	20	DSC
Cure at 150°C	Minutes	10	DSC
Pot / Work Life at 25°C (In Closed Container)	Week	> 1	Viscosity double

These figures are only intended as a guide and should not be used in preparing specifications.

Processing Instruction

Important! OP4047 is platinum cure system. Please keep applied surface / housing clean and avoid using this material on any place that contains sulfur, amine, phosphorous, organo-metals, acid, etc. because these contaminants could inhibit the cure the material. Please let the compound thoroughly thaw after taking it out from freezer. This typically needs half to one hour depending on the size of container.

We recommend running preliminary tests to optimize conditions for the particular application. Comprehensive processing instructions can be obtained by contacting directly to United Adhesives Inc.

Storage

OP4047 has a shelf life of at least 6 months when stored at < 4 °C freezer in the originally sealed container. Storage beyond the date specified does not necessarily mean that the product is no longer usable. In this case however, the properties required for the intended use must be checked for quality assurance reasons.

Safety information

OP4047 silicone contains neither toxic nor corrosive substances that might require special handling precautions. General hygiene regulations should be observed. Comprehensive instructions are given in the corresponding Material Safety Data Sheets. They are available on request from United Adhesives Inc.

Characteristics

OP4047 is a one-part water clear potting rubbery. It is a flowable, addition-curing, silicone that cures at elevated temperature to a very firm optically clear rubber that is used for casting or injection molding of high performance optical components. It has non-corrosive and self-priming adhesion to various substrates. It stays thermo-optically stable with heat and UV exposure. It will not yellowing over time with heat and UV. OP4047 can be automated to dispense from pails or hand extruded from syringe.

Special Features and Benefits

- Optically clear potting / coating rubber
- Non-yellowing and thermo-optically stable
- One component and ready to apply
- Excellent dielectric properties
- Mechanical shock and vibration damping
- Low outgassing and minimal volatile
- Broad range of temperature stability

Typical Applications

- Pot / encapsulate optical parts
- Coat various opt-electronic components
- LED, solar or other optical applications
- Seal lids, covers, housings, connectors
- Vibration dampening
- Thermal stress coupling

The data presented in this leaflet are in accordance with the present state of our knowledge, but do not absolve the user from carefully checking all supplies immediately on receipt. We reserve the right to alter product constants within the scope of technical progress or new developments. The recommendations made in this leaflet should be checked by preliminary trials because of conditions during processing over which we have no control, especially where other companies' raw materials are also being used. The recommendations do not absolve the user from the obligation of investigating the possibility of infringement of third parties' rights and, if necessary, clarifying the position. Recommendations for use do not constitute a warranty, either express or implied, of the fitness or suitability of the products for a particular purpose. For technical, quality, or product safety questions, please contact directly to United Adhesives Inc.