

Opti-tec 5013-1 Optically Clear, Fast Cure Epoxy Adhesive for Glass and Glass/Metal Bonding



Description

Opti-tec 5013-1 is a two-component, medium viscosity epoxy with high optical clarity. It has a fast room temperature cure, which can be accelerated by heat. Opti-tec 5013-1 is designed as an adhesive, or for small potting and encapsulation projects where high optical clarity, good wetting and medium viscosity are important.

Opti-tec 5013-1 can be used for bonding glass, quartz, metal and many plastics. It finds uses in the assembly and repair of glass items where a clear adhesive is required.

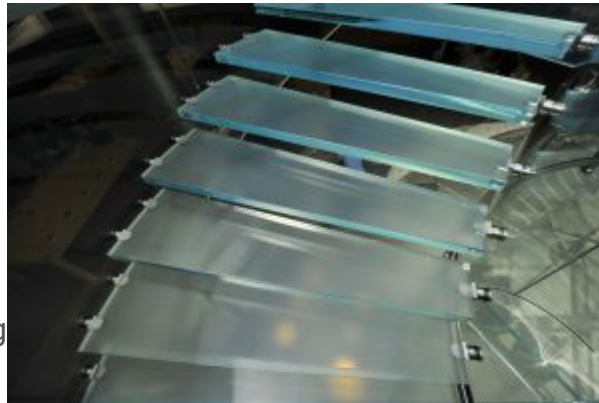
Features & Benefits

- Optically clear
- Viscosity of 5,000-10,000 cps
- Sets within minutes and cures within hours at room temperature. It reaches handling strength in 30 minutes. Full cure can be achieved in 10 minutes at 65°C.
- High surface energy allows it to wet and wick between surfaces. It develops strong adhesion to most materials used in optics, including metals, ceramics, glass and most plastics.
- Good impact and thermal shock resistance
- Hard material after cure and can be polished
- Good resistance to yellowing
- Supplied in convenient side-by-side double syringe cartridges, complete with static mixing nozzles.

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Applications



- Glass and metal bonding
- Repair of glass, wood, ceramic, metal
- Repair or restoration of minerals, gems and quartz crystals
- Optical assembly, optical filters, lenses, prisms
- Optical encapsulation & glob topping, small volume casting or potting
- Opto-electronics, photonics, LEDs

Specifications

Part number change: as of version 3.0, April 2021, the part number of this product changed from Opti-tec 5013 to Opti-tec 5013-1. 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

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internal testing and is deemed to be equivalent.

Typical properties	Opti-tec 5013-1	
Mix ratio	1:1 resin to hardener	
Mixed viscosity	5-10 Pa.s (5,000-10,000 cps)	
Colour	Clear, water white	
Specific gravity	1.20	
Pot life	5 minutes @ 23°C (2 gram mix) Recommended maximum application 2 grams Larger quantities may lead to exothermic reactions which may have undesired effects	
Cure schedule	Bondline temperature 23°C 65°C	Time 2 hours 10 mins
Cured properties (24 hours @ 23°C)		

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Typical properties	Opti-tec 5013-1
Hardness	Shore D 70
Temperature range	-60 to 125°C
CTE	55 ppm/°C
Lap shear strength (Al/Al)	8 MPa
Refractive index	1.54
Shrinkage on cure	3%
Shelf life	12 months in original sealed containers

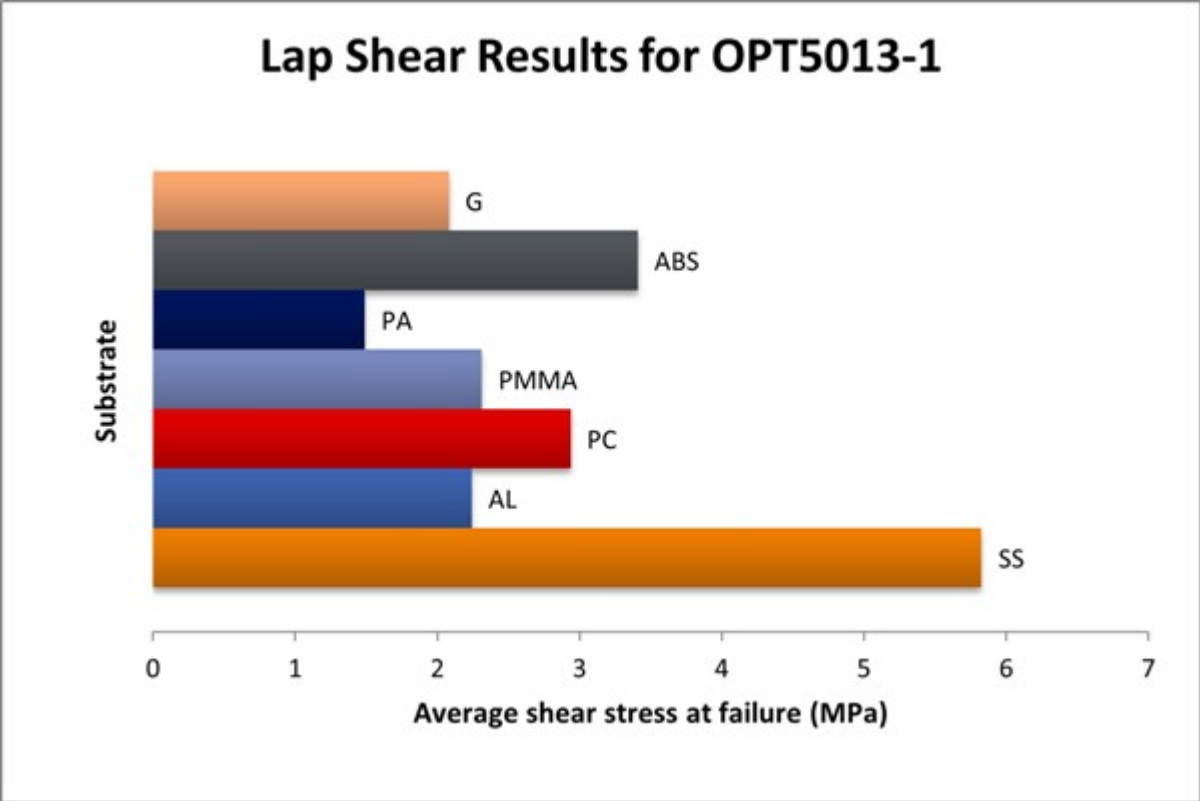
Adhesive bonded joints	Sheer stress at failure (MPa)	Mode of failure
Stainless steel	5.8	Adhesion
Aluminium 6082 T6 (AL)	2.2	Adhesion
Polycarbonate (PC)	2.9	Adhesion

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Adhesive bonded joints	Shear stress at failure (MPa)	Mode of failure
PMMA	2.3	Adhesion
Nylon 6/6 (PA)	1.5	Adhesion
ABS	3.4	Adhesion
Glass (G)	2.1	Cohesive substrate

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Lap shear results for Opti-tec 5013

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Safety Data Sheets

For the latest SDS for this product, please e-mail msds@intertronics.co.uk

Other Information



[Adhesive Problem? What's the Cure?](#)

A guide to adhesive bonding, considering structural bonding and the criteria involved for successful assembly.


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Our [Technical Bulletins](#) page has links to:

- [Instructions: 50ml Side-by-Side Double Syringe Cartridges](#)

See how **Opti-tec 5013-1** works as part of real application in this adhesive [Case Study](#):

<p>CASE STUDY</p> <p>intertronics adhesives, coatings, sealants & equipment for your manufacturing and technology applications</p> <p>Opti-tec 5013 Optically clear, fast-cure epoxy adhesive</p>  <p>Ortery Scent Bottles</p>	<p><u>Glass artist completes high-quality work in short timelines with Opti-tec 5013 epoxy</u></p> <p>The award-winning glass artist, Anthony Scala, uses Opti-tec 5013 optically clear, fast-curing, glass epoxy to effectively repair sculptures without sacrificing process speed.</p>
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Ordering Information

Opti-tec 5013-1 Optically Clear, Fast Cure Epoxy Adhesive for Glass and Glass/Metal Bonding



Opti-tec 5013-1 is available in a convenient side-by-side double syringe cartridge.

The OPT5013-1-50KIT contains a 50 gram cartridge of epoxy, a Syringe Gun and three static mixing nozzles. It is ideal for product evaluations or small quantity users.

Part number	Description
OPT5013-1-50G	Optically Clear Fast Cure Epoxy Adhesive, Double Syringe Cartridge, 50g
IDM805001	Syringe Gun – for 50g cartridges
IDM2N10	Static Mixing Nozzle (pkg 10) – for 50g cartridges
OPT5013-1-50KIT	Contains 50g cartridge of epoxy, a Syringe Gun and three static mixing nozzles

Storage: Store in the original unopened containers under cool dry conditions between 15° and 25°C.

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Next Steps

Our technical team are on hand to discuss your application requirements. [Click here](#) to get in touch.

Find out more information on [how to purchase](#).

Supplied by:

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