

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



Description

Opti-tec 5013 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 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 can be used for bonding glass, quartz, metal and many plastics. It finds uses in 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.

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



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

Typical Properties		
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	

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



Typical Properties		
Pot life	5 minutes @ 23°C 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)		
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%	

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



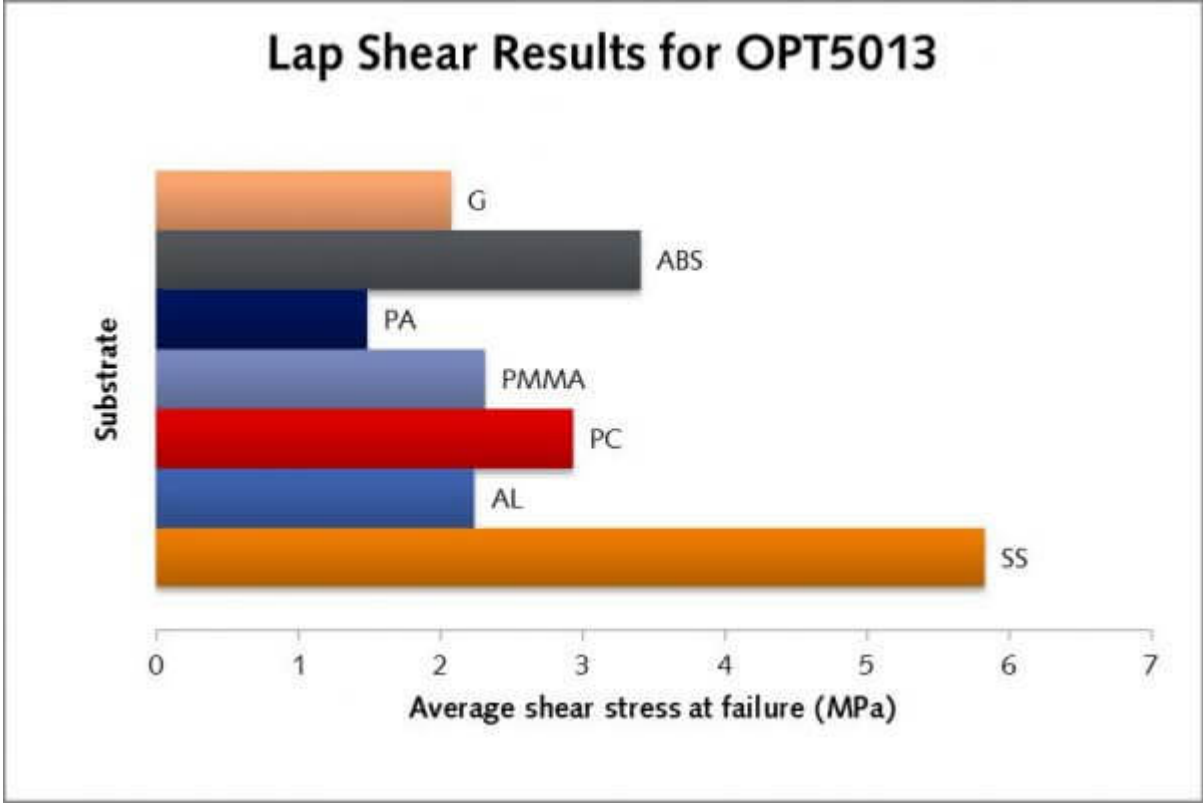
Typical Properties

Shelf life	12 months in original sealed containers	
------------	---	--

Adhesive bonded joints		Shear stress at failure	
		OPT5013	
		MPa	Mode of failure
Material	Stainless steel (SS)	5.8	Adhesion
	Aluminium 6082 T6 (AL)	2.2	Adhesion
	Polycarbonate (PC)	2.9	Adhesion
	PMMA	2.3	Adhesion
	Nylon 6/6 (PA)	1.5	Adhesion
	ABS	3.4	Adhesion
	Glass (G)	2.1	Cohesive substrate

Lap shear results for Opti-tec 5013

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



Lap shear results for Opti-tec 5013

Other Information

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



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

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

Ordering Information

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

The OPT5013-50KIT 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
OPT5013-50G	Optically Clear Fast Cure Epoxy Adhesive, Double Syringe Cartridge, 50 gram
IDM805001	Syringe Gun – for 50g cartridges
IDM2N10	Static Mixing Nozzle (pkg 10) – for 50g cartridges

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



Part number	Description
OPT5013-50KIT	Contains 50 gram cartridge of epoxy, a Syringe Gun and three static mixing nozzles

For best results, store away from amines, acids, oxidising agents, oxidising materials and strong alkalis. Static electricity and formation of sparks must be prevented and should avoid heat, flames, and other sources of ignition. Keep only in the original container. Keep container upright and tightly closed, in a cool, well-ventilated place. Protect containers from damage. Bund storage facilities to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent.

Next Steps

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

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

Supplied by:

intertronics

INTERTRONICS

12a Station Field Industrial Estate, Banbury Road, Kidlington

Oxfordshire England OX5 1JD

t 01865 842842 e info@intertronics.co.uk

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



Last updated: January 2020 Version: 2.4

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.