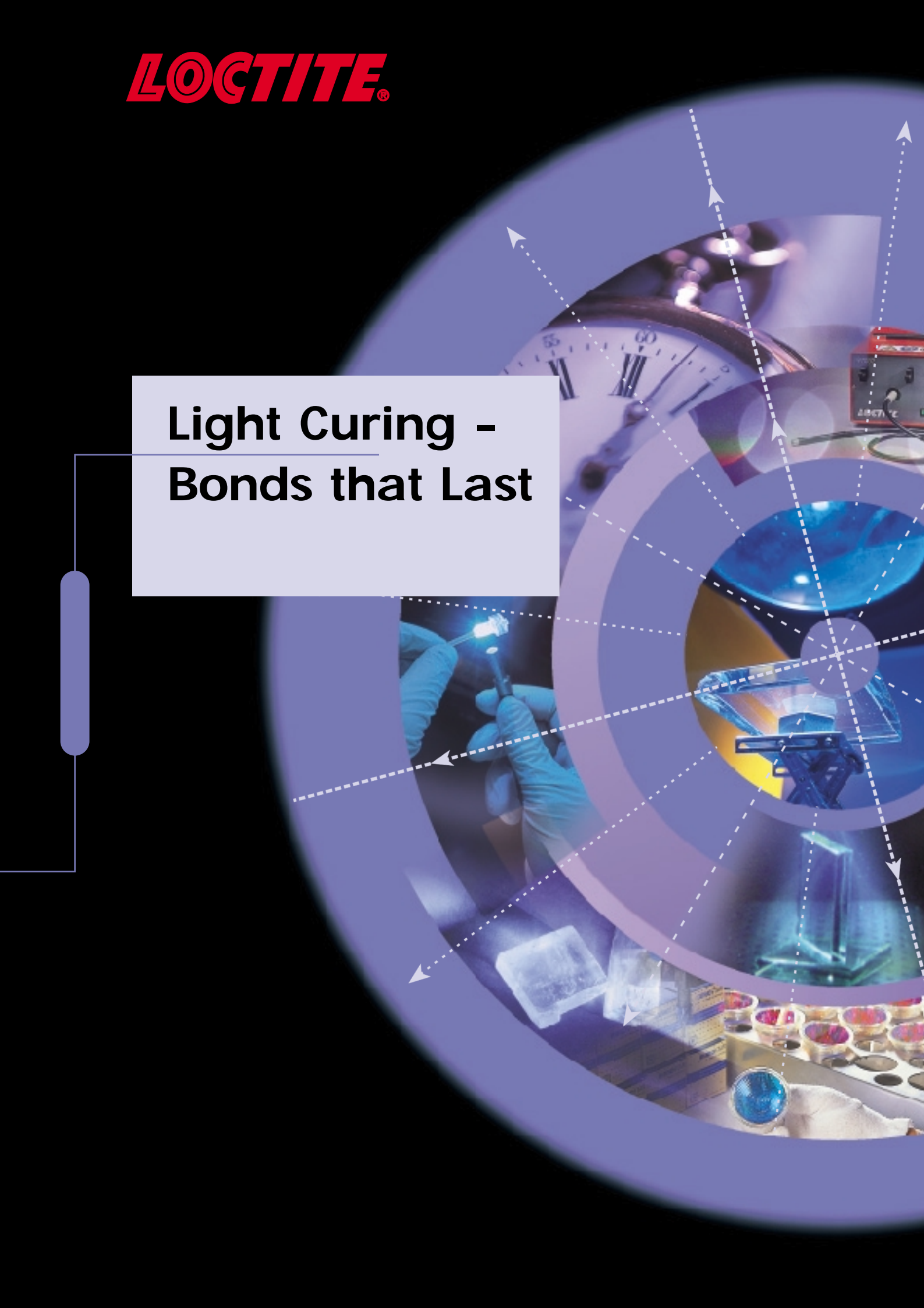


LOCTITE®

**Light Curing -
Bonds that Last**



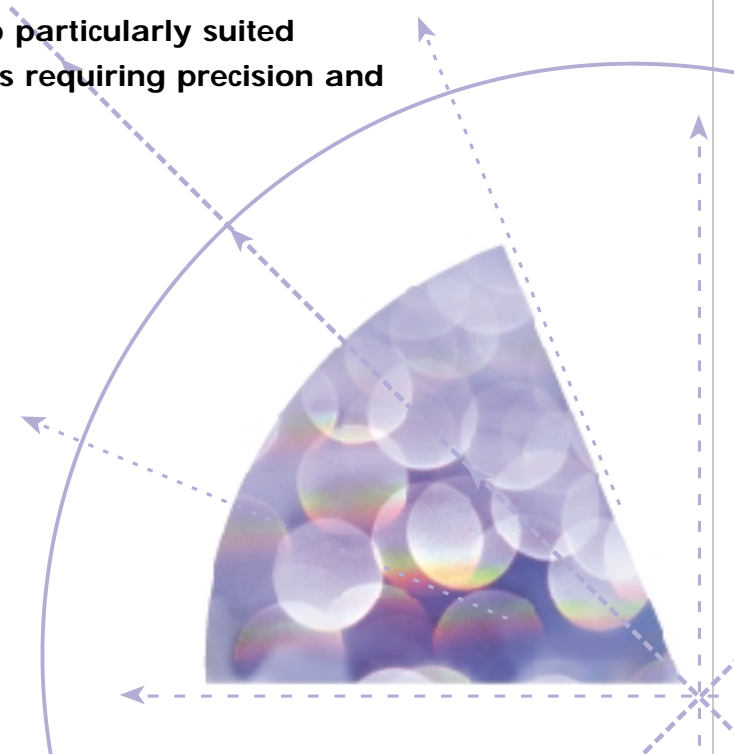


Quick, Clean and Effective

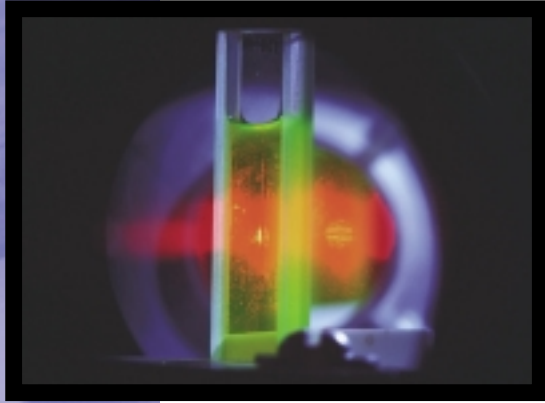
Light curing adhesive technology is the solution for various types of assembly applications. It features a wide range of performance profiles, complemented by curing and dispensing equipment. Loctite light curing products cure on demand – they are a highly effective solution for many industrial applications such as:

- Bonding
- Coating
- Sealing
- Potting and encapsulating
- Tacking

These products are also particularly suited for intricate applications requiring precision and miniaturisation.



Advantages



The crucial benefits of this family of adhesives are:

- Fast curing (within seconds)
- Adhesion to many substrates
- Cure on demand
- Good gap filling
- Single-component
- Very easy to apply
- Enables immediate testing

The following key features make Loctite UV products particularly suitable for industrial production applications:

1 Cure on demand

The products remain in a liquid state and will only cure when they are exposed to the light source. They can be cured in a matter of seconds, which makes them well-suited for high-speed production lines.

2 Cure by secondary mechanisms

If during exposure, some areas are shaded, the light may be prevented from reaching the entire adhesive-covered face. To solve this problem, Loctite has developed products with secondary curing systems. It can be activated via heat,

humidity, anaerobic cure (cure in absence of air), or an activator.

For these adhesives, light curing ensures fast fixturing to allow handling of assembled parts within seconds, while the secondary cure in shaded areas completes the curing process.

3 Single-component and solvent-free

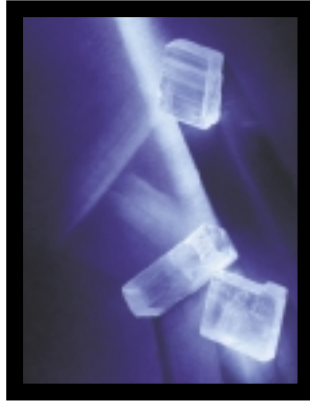
Being single-component products, Loctite light curing adhesives can be used immediately, without requiring mixing. The products are solvent-free and do not have a pot-life.

4 Versatile and reliable for use on a variety of substrates

The ability to join dissimilar substrates is one of the main properties of Loctite light curing adhesives. These products have been specially developed for materials such as metals and plastics, including PC, PVC highly plasticised PVC, polyester, ABS, as well as ceramics and glass. Some of these adhesives were designed to bond without leaving visible bond lines, while ensuring excellent adhesion.



Curing Technology



Loctite light curing adhesives are single-component, solvent-free products which cure in seconds when exposed to ultraviolet and/or visible light from industrial light sources. A key prerequisite is that the light must reach the entire bond face. For this purpose, at least one of the faces must be transparent to the required

wavelength of UV light. Loctite light curing equipment was designed specifically to meet the intensity and radiation spectrum requirements of these adhesives.

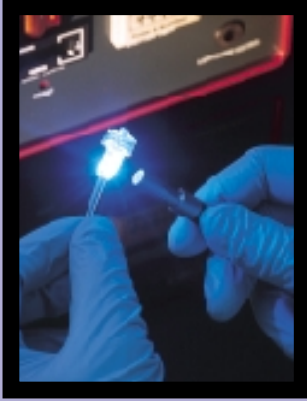
Light Curing Product Selector Guide

Product	Cure Type	Viscosity mPa.s	CTV mm	Tack Free seconds (Hg Arc)	Suitable Materials for				
					Metal	Glass	Thermo- plastic	Thermoset Plastic	PVC
322	Ultraviolet**	5,750	4*	3	■	▲	■	■	◆
366	Ultraviolet** Anaerobic* Heat/Activator	7,500	2.3*	15	■	■	●	▲	●
3103	Ultraviolet/Visible***	10,000	13*	> 30	▲	●	■	■	■
3106	Ultraviolet/Visible***	5,000	13***	> 30	▲	●	■	■	■
3107	Ultraviolet/Visible***	500	13****	23	▲	●	■	■	■
3108	Ultraviolet**	5,100	13*	> 30	▲	●	■	■	▲
3491	Ultraviolet**	1,100	6.5*	10	■	■	◆	▲	◆
3494	Ultraviolet/Visible***	5,500	13***	8	■	■	▲	▲	▲
3525	Ultraviolet/Visible***	15,000	13***	10	■	■	◆	■	◆
5088	Ultraviolet/Moisture	65,000	2.5**	> 30	■	■	▲	▲	▲
5091	Ultraviolet/Moisture	5,500	8**	> 30	■	■	▲	▲	▲

* = 100 mW/cm² for 60 seconds ** = 250 mW/cm² for 30 seconds ■ = Excellent ▲ = Good ● = Not recommended
 *** = 50 mW/cm² for 60 seconds **** = 50 mW/cm² for 10 seconds

- = Anaerobic cure: cure in absence of air, accelerated by metal contact
- ** = Ultraviolet: suitable wavelength 365 nm
- *** = Ultraviolet/Visible: suitable wavelength 365 nm and 420 nm

Loctite Equipment for Dispensing and Light Curing Adhesives:



Loctite offers a comprehensive range of equipment for manual, semi-automated and fully automated product dispensing and curing. This equipment was designed to meet a wide range of processing requirements. They ensure Loctite products can be applied and cured economically, quickly, precisely and cleanly. In addition to the standard equipment, Loctite caters for the individual needs of customers by designing and

building equipment tailored to customers' specifications. Loctite light curing systems complement the Loctite line of light curing adhesives. Equipment options include systems for area curing with optional intensity monitor as well as systems for spot curing applications ranging from prototypes and small batches to high-volume processing lines. A flexible light guide directs the light energy to the assembly spot.



r bonding			Description
Polycarbonate	Plasticised PVC	Ceramic	
◆	◆	▲	Fast tack free bonder
●	●	■	Metal bonder
■	◆	▲	PC bonder - non stress cracking, thixotropic
▲	◆	▲	PVC bonder
▲	■	▲	Tack free plastics bonder, fluorescent
▲	◆	▲	For potting and sealing, very flexible
◆	◆	▲	Glass bonder
◆	◆	▲	Fast glass bonder
◆	◆	■	Multi substrate, flexible, tough, fluorescent
▲	◆	■	Flexible adhesive
▲	◆	■	Flexible adhesive

◆ = Reasonable

The Light Source

The lamp is the heart of a light curing system. Which lamp is right for the job is a matter of technical requirements and/or economic constraints. Loctite light curing adhesives are cured by UVA light or UVA/visible light. Acceleration of surface (tack free) cure can be achieved with UVC light.



97032
Medium intensity spot curing system designed to emit UVA and visible light (blue light). Ideal for short production runs and manual processing.

97035 UVALOC
Cure system for manual loading of the curing cabinet. Designed to emit UVA, UVC and visible light.



97033
High intensity spot curing system designed to emit UVA and visible light (blue light) for extremely fast curing. Ideal for high-volume production and short cycle times.

97036 UVALOC
Area cure system for UV tunnels with continuous-feed or intermittent-feed conveyors. Designed to emit UVA, UVC and visible light.

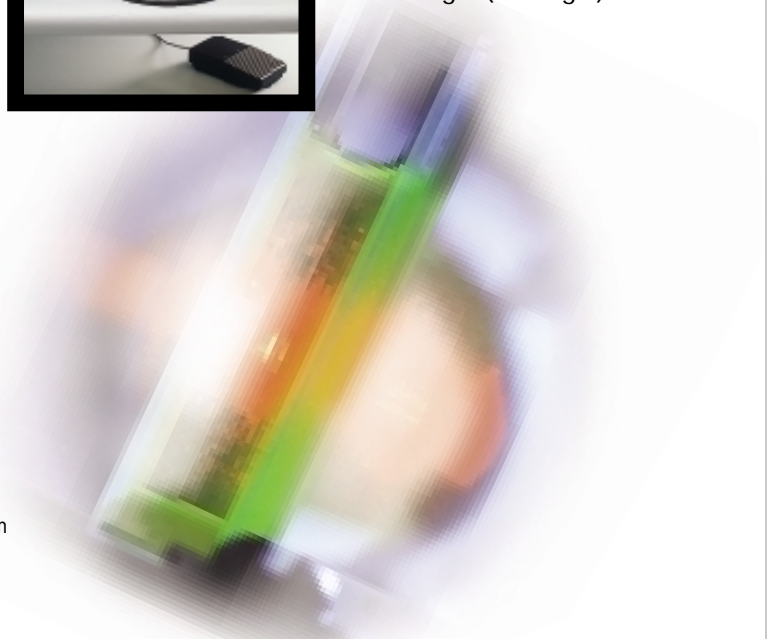


97034
High intensity spot curing system designed to emit UVC light for fast surface cure as well as UVA and visible light (blue light).

97037
UV intensity monitor for use in combination with both UVALOC systems

UVA = Wavelength 315 – 400 nm

UVC = Wavelength 200 – 280 nm



The Loctite Light Curing Adhesive for:

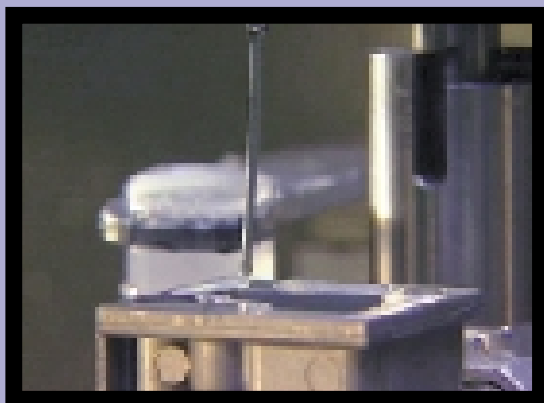


Bonding:

Loctite light curing adhesives are tough, robust and flexible. They can be rapidly

cured on demand. These adhesives are single-component, solvent-free liquids with consistencies ranging from low viscosity liquids to thixotropic gels. Cure rates are typically 1 to 60 seconds – depending on lamp intensity, distance from the light source, depth of cure, and transmittance through the substrate. Formulations are available featuring cured properties ranging from rigid to soft, flexible elastomers. Curing in excess of 13 mm is

achievable. Loctite light curing adhesives can be used to assemble the vast majority of transparent materials and bond a wide variety of substrates, including heavily plasticised PVC. They are designed for applications where one or more of the polymer or glass components is opaque. Combinations of visible light and UV response photoinitiators are often used to enhance curing versatility.



Sealing:

Loctite flexible adhesive/-sealants cure into a flexible, heat-resistant, rubber elastomer by means of ambient moisture and/or exposure to a UV source. They provide a reliable seal for gasketing and sealing applications.

Other application areas:

Loctite light curing products are also used for encapsulating and potting, wire tacking and coil terminating – particularly when these processes must be

achieved rapidly. The adhesive is exposed to suitable light – in some cases for less than a second (depending on the amount of applied adhesive) – to form a hard, clean plastic with good electrical properties.



The data contained herein are intended as reference only. Please contact your local Loctite subsidiary for assistance and recommendations on specifications for these products.

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