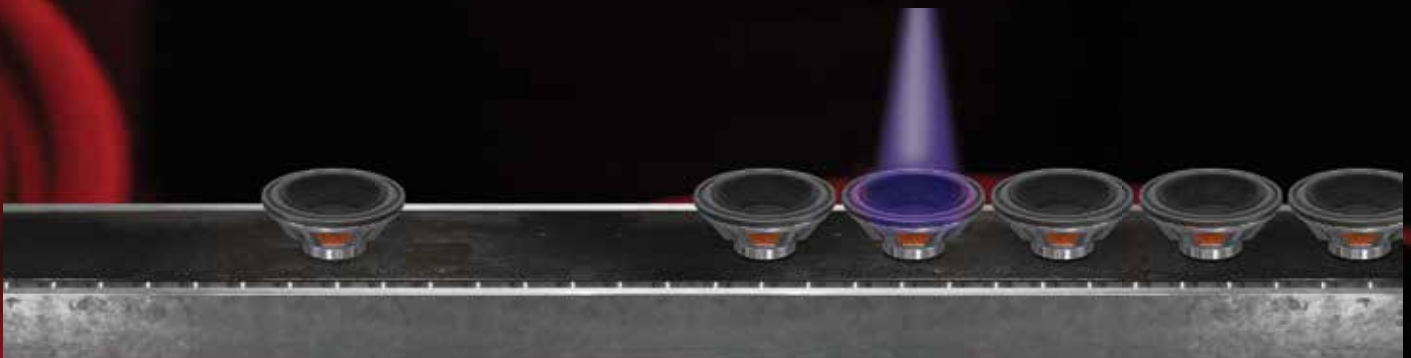




# LIGHT CURE ADHESIVES

Strength.  
Transparency.  
Rapid curing.  
**For faster process speeds.**

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#### PROBLEM

Without light cure adhesives:  
Longer cure times and slower processing.

#### SOLUTION

With light cure adhesives:  
High speed cure on demand.

## Excellent bonding. Fast processing.

Light cure adhesives are ideal for applications requiring fast production speeds and are commonly used in the assembly of glassware, loudspeakers, optical instruments, electrical components, and disposable medical devices. To help select the best product for your application, key considerations include the ability of the assembled parts to transmit the UV/visible light to the bond line, whether a rigid or flexible bond line is required, and the types of substrates being bonded.



## How to choose a light cure adhesive.



### LIGHT TRANSPARENT SUBSTRATE VS. OPAQUE

Use visible light cure adhesives for UV-stabilised, transparent substrates. For opaque substrates, dual cure adhesives expand the benefits of light cure technology to non-transparent substrates and other application areas.



#### BOND TYPE

##### FLEXIBLE

Highly flexible bonds that offer high thermal cycle resistance and are suitable for elastic bonding, sealing and leak-proofing.

##### RIGID

High-strength adhesives that cure quickly and provide tough bond lines that are suitable for bonding rigid plastics and metals.



#### SUBSTRATE

Many light cure adhesives are specially formulated to provide optimum performance on specific substrates, so the adhesive is best suited for the intended application.



BEST SELLER

## LOCTITE AA 3494

### Glass Bonding

LOCTITE 3494 is a clear, medium viscosity, acrylic-based adhesive that sets in seconds when exposed to the proper UV/visible light intensity. The adhesive is ideal for bonding glass, plastic and metal parts, and provides an impact resistant bond that withstands prolonged exposure to humidity and water immersion.



**Bond type:**  
Semi-rigid



**Substrate:**  
Glass, metals, plastics



BEST SELLER

## LOCTITE 4310

### Ultra Fast, Low Viscosity

LOCTITE 4310 is a fluorescent, ethyl cyanoacrylate instant adhesive with photo-initiator for additional UV-cure. The UV-cure properties facilitate rapid curing of exposed surface areas, thereby minimising blooming and providing an alternative to solvent borne activators.

For low surface energy plastics and rubbers, pre-apply LOCTITE SF 770 prior to using LOCTITE 4310. More information on LOCTITE SF 770 on Page 50.



**Bond type:**  
Rigid



**Substrate:**  
Plastics, rubbers, metals

# Find the right product for your application



## Transparent Substrates

LOCTITE AA 3951  
LOCTITE AA 3494

LOCTITE AA 3953  
LOCTITE AA 3922

## Opaque Substrates

LOCTITE AA 352  
LOCTITE 4310

LOCTITE 4311

## Transparent Substrates



### LOCTITE AA 3951

Ultra Fast, Plastic Bonding,  
Low Viscosity



**Bond type:** Flexible



**Substrate:** Plasticised PVC, TPEs, thermoset rubbers, polycarbonate, ABS, acrylic

**Chemistry:** Acrylic  
**Viscosity:** 150 mPa·s  
**Compliant with ISO 10993:** Yes  
**Fluorescence:** Yes  
**Colour:** Transparent, colourless to straw



### LOCTITE AA 3953

Ultra Fast, Plastic Bonding,  
Medium Viscosity



**Bond type:** Flexible



**Substrate:** Plasticised PVC, TPEs, thermoset rubbers, polycarbonate, ABS, acrylic

**Chemistry:** Acrylic  
**Viscosity:** 550 mPa·s  
**Compliant with ISO 10993:** Yes  
**Fluorescence:** Yes  
**Colour:** Transparent, colourless to straw

## Opaque Substrates



### LOCTITE AA 352

Toughened



**Bond type:** Rigid



**Substrate:** Metal, glass

**Chemistry:** Acrylic  
**Viscosity:** 20,500 mPa·s  
**Compliant with ISO 10993:** No  
**Fluorescence:** No  
**Colour:** Clear / light amber  
**Use with:** LOCTITE SF 7649 Activator



### LOCTITE 4310

Ultra Fast,  
Low Viscosity



**Bond type:** Rigid



**Substrate:** Plastics, rubbers, metals

**Chemistry:** Cyanoacrylate  
**Viscosity:** 175 mPa·s  
**Compliant with ISO 10993:** Yes  
**Fluorescence:** Yes  
**Colour:** Clear / pale green



**LOCTITE  
AA 3494**  
Glass Bonding



**Bond type:** Semi-rigid



**Substrate:** Glass, metals, plastics

**Chemistry:** Acrylic  
**Viscosity:** 6,000 mPa·s  
**Compliant with ISO 10993:** No  
**Fluorescence:** No  
**Colour:** Transparent



**LOCTITE  
AA 3922**  
General Purpose,  
Medium Viscosity



**Bond type:** Semi-rigid



**Substrate:** Metals, plastics

**Chemistry:** Acrylic  
**Viscosity:** 300 mPa·s  
**Compliant with ISO 10993:** Yes  
**Fluorescence:** Yes  
**Colour:** Transparent to hazy



**LOCTITE  
4311**  
Ultra Fast,  
Medium Viscosity



**Bond type:** Rigid



**Substrate:** Plastics, rubbers, metals

**Chemistry:** Cyanoacrylate  
**Viscosity:** 1,050 mPa·s  
**Compliant with ISO 10993:** Yes  
**Fluorescence:** Yes  
**Colour:** Clear / pale green



## Equipment

### Dispensing



#### **LOCTITE 98815**

Manual Syringe Dispenser 30 ml

IDH 1544934

A hand-held, manually operated dispenser, for any product packaged in a standard 30 ml syringe. This dispenser provides a convenient, cost-effective method to apply product.



#### **LOCTITE 97006**

Digital Syringe Dispenser

IDH 88633

A semi-automatic dispensing system designed to dispense LOCTITE adhesives and fluids packaged in 25ml syringes and 300ml cartridges (with special adaptors). The unit has digital timing control with decimal settings to 0.001 seconds for increased precision over typical pressure-time systems. An adjustable pressure regulator controls a pulse of air, and when used in conjunction with an air line adapter attached to an adhesive syringe barrel, will provide a controlled dispensed amount of adhesive.

## Equipment

### Curing



#### **LOCTITE EQ CL32**

LED Spot

A high powered, portable LED light source that offers a high level of flexibility for all UV or visible light curing needs. The light weight, compact design helps minimise operator fatigue, while its small size and long focus length make it perfect for applications in crowded areas and hard to reach bond areas.

##### **EQ CL32 405 nm LED Spot**

IDH 2182207

##### **EQ CL32 365 nm LED Spot**

IDH 2182210



#### **LOCTITE EQ CL25**

LED Spot System

It is the universal controller that can be interfaced with up to four individual LED curing heads. The accessories come in many options including different lens, length of cables and 365 nm or 405 nm LED heads. The accessories are to be ordered separately.

##### **Controller**

IDH 1786127

##### **EQ CL25 405 nm LED Head**

IDH 2104788

##### **EQ CL25 365 nm LED Head**

IDH 1984957

### ADDITIONAL EQUIPMENT

#### **LOCTITE 97009 Semi Automatic Dispensing System HP (High Pressure)**

IDH 215845

#### **LOCTITE 97113 Stationary Applicator Valve**

IDH 88644

#### **LOCTITE 98009 Light Cure Diaphragm Dispense Valve**

IDH 218280

#### **LOCTITE EQ VA20 Volumetric Valve**

IDH 2084141

#### **LOCTITE EQ PU20 Digital Peristaltic Dispenser**

IDH 2265279

### ADDITIONAL EQUIPMENT

#### **LOCTITE EQ CL30 LED Flood System**

##### **EQ CL30 Single Flood Controller**

IDH 1359255

##### **EQ CL30 Quad Flood Controller**

IDH 2257357

##### **EQ CL30 LED Flood Head 365 nm**

IDH 2139182

##### **EQ CL30 LED Flood Head 405 nm**

IDH 2139180

#### **LOCTITE EQ CL34 LED Line Array System**

##### **EQ CL34 Line Cure 365 nm**

IDH 2209919

##### **EQ CL34 Line Cure 405 nm**

IDH 2210212

To ensure that you use the most appropriate lamp for your system, please contact your local sales representative.

Please refer to page 130 for additional equipment/information.

## LIGHT CURE ADHESIVES

Product	Pack Size	Appearance	Cure Type	Key Substrates	Viscosity (mPa·s)	Temperature Range (°C)	Hardness	Block Shear Strength, PC (N/mm <sup>2</sup> )
<b>TRANSPARENT SUBSTRATES</b>								
<b>LOCTITE AA 3494</b>	25 ml	Transparent liquid	Ultraviolet (UV)/visible light	Glass, metals, plastics	6.000	-55 to +120	D 65	16.8*
<b>LOCTITE AA 3922</b>	25 ml, 1 l	Transparent to hazy liquid	Ultraviolet (UV)/visible light	Metals, plastics	300	-55 to +130	D 66	23
<b>LOCTITE AA 3951</b>	25 ml, 1 l	Transparent, colourless to straw coloured liquid	Ultraviolet (UV)/visible light	Plasticised PVC, TPES, thermoset rubbers, polycarbonate, ABS, acrylic	150	-55 to +100	D 62	22
<b>LOCTITE AA 3953</b>	25 ml, 1 l	Transparent, colourless to straw coloured liquid	Ultraviolet (UV)/visible light	Plasticised PVC, TPES, thermoset rubbers, polycarbonate, ABS, acrylic	550	-55 to +100	D 56	22
<b>OPAQUE SUBSTRATES – ABILITY TO CURE IN AREAS SHADOWED FROM LIGHT</b>								
<b>LOCTITE 4310</b>	28 g, 454 g	Transparent, light yellow-green to dark blue-green liquid	Dual Cure (Ultraviolet (UV)/ visible light & humidity)	Plastics, rubbers, metals	175	-55 to +100	D 84	22
<b>LOCTITE 4311</b>	28 g, 454 g	Transparent, light yellow-green to dark blue-green liquid	Dual Cure (Ultraviolet (UV)/ visible light & humidity)	Plastics, rubbers, metals	1.050	-55 to +100	D 84	22
<b>LOCTITE AA 352</b>	250 ml, 1 l	Transparent light amber liquid	Dual Cure (Ultraviolet (UV) light & activator cure)	Metal, glass	20.500	-55 to +150	D 60	16.5*

\* steel to glass





# Light Cure Bonding Process Improves Product Quality and Output.



“LOCTITE’s Engineering Solutions Expert helped us design a new production process that met all of our requirements and improved our quality and output.”

An ink cartridge remanufacturer was having trouble finding a product that passed their adhesion and pressure test requirements. They had previously tested another adhesive alternative but it had poor bond strength to ABS and failed pull tests. The solution: **LOCTITE 4311** Light Cure Adhesive, which dispenses precisely and cures quickly.

With the help of a LOCTITE Engineering Solutions Expert, the team redesigned their assembly process, then dispensed **LOCTITE 4311** onto the bond area using the existing LOCTITE 200D Benchtop Robot and curing it with exposure to the **LOCTITE CL30 365nm LED Flood System** for several seconds. The new process bonded well, passed repeated pull tests and improved ink cartridge quality and production output.

## **BENEFITS**

### **LOCTITE 4311 Light Cure Adhesive:**

- Cures completely in several seconds beneath the LOCTITE EQ CL 30 LED Flood System
- Meets all manufacturing requirements without additional capital investment