



# *STRUCTURAL* ADHESIVES CATALOG





# CREATING BONDS THAT LAST.

Formulated to provide tough, durable bonds to a wide variety of surfaces within automotive, aerospace, electronics, construction, engineered wood, medical & consumer industries, LOCTITE® structural adhesives create strong, reliable bonding and sealing that outlasts the competition.



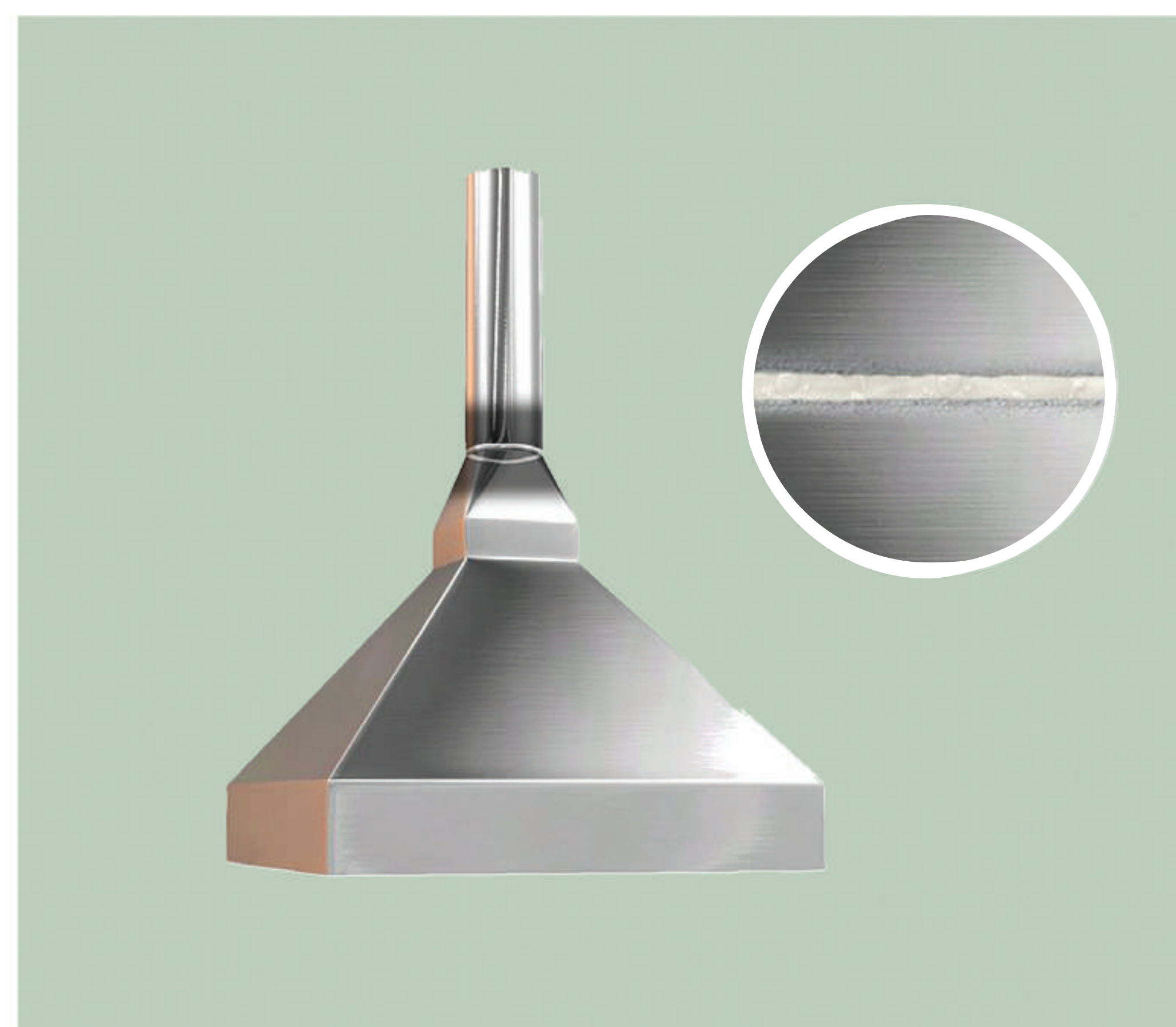


# SUPERIOR SPEED, AESTHETICS AND STRENGTH. WITHOUT THE WEIGHT.



## Problem

With traditional fastening:  
Added weight, time, cost  
and difficulty.



## Solution

With structural adhesives:  
Lightweight, strong, durable, less expensive  
fastening with better end product aesthetics.



# TAKE OFF THE WEIGHT. TAKE ON THE LOAD.

Structural adhesives join two materials firmly and permanently using an adhesive “bridge” between the substrates. They eliminate many of the shortcomings of mechanical methods, such as:

- Improper stress distribution which can affect product reliability
- Added weight to the end-product which can increase costs

They are also easier to apply and assemble. Selection factors to consider include adhesive-material compatibility and joint requirements.



## HOW TO CHOOSE A STRUCTURAL ADHESIVE.

### GENERAL PURPOSE vs. SPECIALTY ADHESIVES

LOCTITE® has a wide range of structural adhesives, from general purpose — strong and versatile enough to cover the majority of applications, to specialty — formulated for the rare cases where general purpose won't do.

#### HIGH PERFORMANCE

Solutions designed for a range of product needs, with respect to impact strength, peel strength, durability, working time etc.

#### FLEXIBLE SOLUTIONS

Offering excellent shock absorption, elasticity and adhesion to plastics, metals and glass.

#### SPECIAL SUBSTRATES

From epoxies designed to be safe for food and water contact to acrylics and polyurethanes for bonding e-coated metals, rigid foams, plastics and glass.

#### BONDING FERRITE COMPONENTS

Epoxies and acrylics designed for the specific requirements of bonding ferrite.

#### POTTING

Flowable epoxies designed for filling cavities and protecting components.





**FIXTURE SPEED**

A range of fixture times from ultra fast to slow to meet your process requirements.



**SUBSTRATE**

LOCTITE® structural adhesives can bond most materials.



**Bestseller**

**EA E-20HP™**

**Fast Fixture, High Shear**

LOCTITE® EA E-20HP™ is an off-white, 2-part, toughened, medium viscosity, industrial grade epoxy adhesive with a medium work life. The mixture cures at room temperature to form a tough bondline with high peel resistance and high shear strengths. It is resistant to a wide range of chemicals and solvents and is an excellent electrical insulator.



**Fixture Speed:** 120 minutes



**Substrate:** Concrete, Aluminum, Steel, Stainless Steel, Polyamide (Nylon), Polycarbonate, Wood



**Bestseller**

**AA 326™**

**Fast Fixture, Small Gaps, 2-step**

LOCTITE® AA 326™ is a yellow to amber, no-mix, medium viscosity (thixotropic) structural and magnet bonder which is activated with LOCTITE® SF 7649™. It has good adhesion to different types of ferrites, a fixture time of 3 minutes and a shear strength of 2,200 psi. It can be used in temperatures up to 120°C.



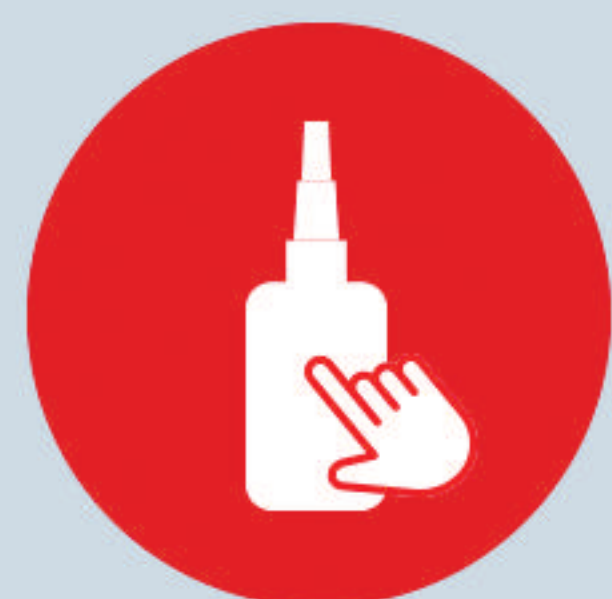
**Fixture Speed:** 2 minutes



**Substrate:** Aluminum, Steel







## FIND THE RIGHT PRODUCT FOR YOUR APPLICATION

### GENERAL PURPOSE

- LOCTITE® AA 330™
- LOCTITE® EA E-00NS™
- LOCTITE® EA E-00CL™
- LOCTITE® EA E-05MR™

### SPECIALTY

#### High Performance

#### WORK LIFE

A range of life times from fast to slow to meet your process requirements.

#### < 1 Hour

- LOCTITE® AA H4800™
- LOCTITE® AA H8000™
- LOCTITE® AA H8003™
- LOCTITE® EA E-20HP™

#### ≥ 1 Hour

- LOCTITE® EA E-60HP™
- LOCTITE® EA E-90FL™
- LOCTITE® EA E-120HP™

## General Purpose STRUCTURAL ADHESIVES



### AA 330™ Small Gap

THIS PRODUCT REQUIRES AN ACTIVATOR SF 7387™

**Fixture speed:** 4 minutes

**Substrate:** : Aluminum, Ceramic, Concrete, Glass, Metal, Stainless Steel, Steel, Wood

**Gap:** 0.02 in

**Temperature Resistance:** 250°F

**Color:** Pale Yellow

**Chemistry:** Two-step Acrylic



### EA E-00CL™ Fast Fixture

**Fixture speed:** 15 minutes

**Substrate:** Aluminum, Ceramic, Concrete, Glass, Metal, Stainless Steel, Steel, Wood

**Temperature Resistance:** 300°F

**Color:** Clear

**Chemistry:** Epoxy



### EA E-00NS™ Non-sag

**Fixture speed:** 15 minutes

**Substrate:** Aluminum, Ceramic, Concrete, Glass, Metal, Stainless Steel, Steel, Wood

**Temperature Resistance:** 300°F

**Color:** Translucent

**Chemistry:** Epoxy





## FLEXIBLE SOLUTIONS

LOCTITE® EA E-05CL™

LOCTITE® U-05FL™

## SPECIAL SUBSTRATES

LOCTITE® AA 3035™

LOCTITE® AA H8600™

## MAGNET BONDING

LOCTITE® AA 331™

LOCTITE® AA 392™

LOCTITE® AA 332™

LOCTITE® AA 326™

## POTTING

LOCTITE® EA E-30CL™

LOCTITE® EA-40EXP™


LOCTITE® EA E-60NC™

## General Purpose STRUCTURAL ADHESIVES



## EA E-05MR™ Moisture Resistant

 **Fixture speed:** 15 minutes

 **Substrate:** : Aluminum, Ceramic, Concrete, Glass, Metal, Plastic, Stainless Steel, Steel, Wood

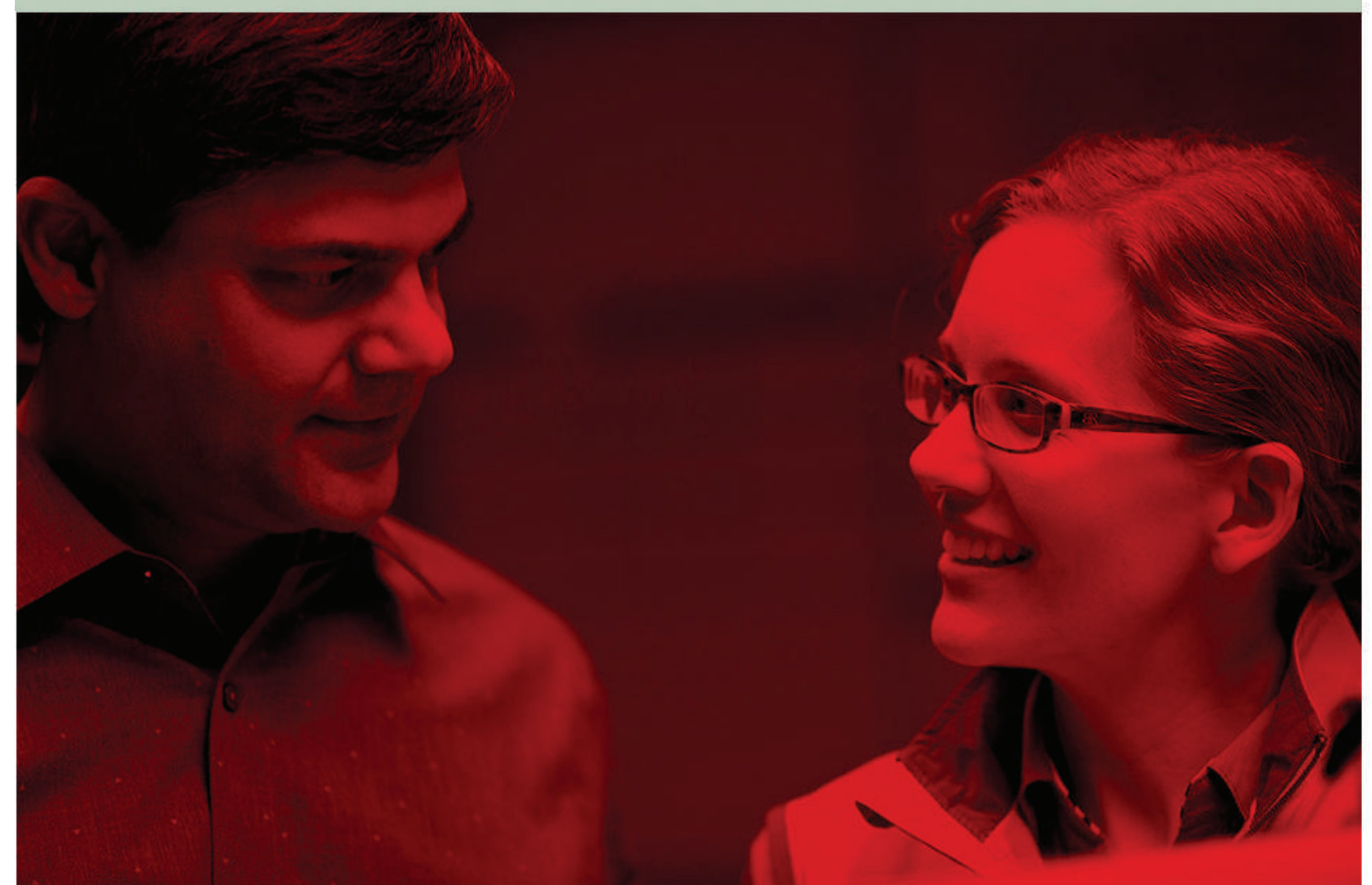
**Temperature Resistance:** 250°F

**Color:** Ultra-Clear

**Chemistry:** Epoxy

## LOCTITE SERVICES

Improve strength and aesthetics  
in reduced time.






## High Performance STRUCTURAL ADHESIVES

WORK LIFE\* < 1 HOUR



### AA H4800™ High Impact, Plastic Bonder

 **Work Life:** 30 minutes

 **Substrate:** Acrylonitrile Butadiene Styrene, Aluminum, Fiberglass Reinforced Plastic (FRP), Galvanized Steel, Gel Coat, Plastic, RTM, Stainless Steel, Steel, Xenoy

**Temperature Resistance:** 180°F


**Color:** Light Yellow

**Chemistry:** Two-part Acrylic



### AA H8000™ High Impact, Metal Bonder

 **Work Life:** 30 minutes

 **Substrate:** Acrylonitrile Butadiene Styrene, Aluminum, Fiberglass Reinforced Plastic (FRP), Galvanized Steel, Gel Coat, Plastic, RTM, Stainless Steel, Steel, Xenoy

**Temperature Resistance:** 180°F


**Color:** Green

**Chemistry:** Two-part Acrylic



### AA H8003™ Fast Cure, High Impact

 **Work Life:** 5 minutes

 **Substrate:** Acrylonitrile Butadiene Styrene, Aluminum, Fiberglass Reinforced Plastic (FRP), Galvanized Steel, Gel Coat, Plastic, RTM, Stainless Steel, Steel, Xenoy

**Temperature Resistance:** 180°F


**Color:** Green

**Chemistry:** Two-part Acrylic



### EA E-20HP™ High Shear, High Peel

 **Work Life:** 20 minutes

 **Substrate:** Aluminum, Ceramic, Concrete, Glass, Metal, Steel, Stainless Steel, Wood

 **Fixture Speed:** 120 minutes

**Temperature Resistance:** 350°F

**Color:** Off-white

**Chemistry:** Epoxy



WORK LIFE\* ≥ 1 HOUR



## EA E-60HP™

High Shear, High Peel

⌚ **Work Life:** 60 minutes

📄 **Substrate:** Aluminum, Ceramic, Concrete, Glass, Metal, Plastic, Stainless Steel, Steel, Wood

⌚ **Fixture Speed:** > 180 minutes

**Temperature Resistance:** 350°F

**Color:** Off-white

**Chemistry:** Epoxy



## EA E-90FL™

High Shear, Flexible

⌚ **Work Life:** 90 minutes

📄 **Substrate:** Aluminum, Ceramic, Concrete, Glass, Metal, Plastic, Stainless Steel, Steel, Wood

⌚ **Fixture Speed:** > 180 minutes

**Temperature Resistance:** 350°F

**Color:** Opaque Grey

**Chemistry:** Epoxy



## EA E-120HP™

High Shear, Non-Sag

⌚ **Work Life:** 120 minutes

📄 **Substrate:** Aluminum, Ceramic, Concrete, Glass, Metal, Plastic, Stainless Steel, Steel, Wood

⌚ **Fixture Speed:** > 180 minutes

**Temperature Resistance:** 350°F

**Color:** Amber

**Chemistry:** Epoxy

### HEAT CURE



## EA E-214HP™

Non Sag, High Shear

⌚ **Work Life:** N/A

📄 **Substrate:** Acrylics, Aluminum, Glass, Nylon, Polycarbonate, PVC, Stainless Steel

⌚ **Fixture Speed:** N/A

**Temperature Resistance:** 300°F

**Color:** Grey

**Chemistry:** 1-Part-Epoxy

\*Work Life = maximum time before assembly




## Flexible Solutions STRUCTURAL ADHESIVES



### EA E-05CL™ Fast Fixture

 **Work Life:** 5 minutes

 **Substrate:** Aluminum, Ceramic, Concrete, Glass, Metal, Plastic, Stainless Steel, Steel, Wood

 **Fixture Speed:** 30 minutes

**Temperature Resistance:** 300°F


**Color:** Clear

**Chemistry:** Epoxy



### UK U-05FL™ High Peel

 **Work Life:** 5 minutes

 **Substrate:** Aluminum, Ceramic, Concrete, Glass, Metal, Plastic, Stainless Steel, Steel, Wood

 **Fixture Speed:** 160 minutes

**Temperature Resistance:** 300°F

**Color:** Off-White

**Chemistry:** Polyurethane

## Special Substrates STRUCTURAL ADHESIVES



### AA 3035™ Polyolefin

 **Work Life:** 5 minutes

 **Substrate:** Polyolefin

**Temperature Resistance:** 180°F

**Color:** Pale Yellow

**Chemistry:** Two-part Acrylic



### AA H8600™ Galvanized Steel

 **Work Life:** 25 minutes

 **Substrate:** Galvanized Steel

**Temperature Resistance:** 250°F

**Color:** Blue

**Chemistry:** Two-part Acrylic



## Magnet Bonding

### STRUCTURAL ADHESIVES



## AA 331™

### Ultra Fast Fixture

THIS PRODUCT REQUIRES  
AN ACTIVATOR SF 7387™

 **Fixture Speed:** 20 seconds

 **Substrate:** Metal

**Gap:** 0.02 in

**Temperature Resistance:** 350°F

**Color:** Light to sand yellow

**Chemistry:** Two-step Acrylic



## AA 332™

### High Temp Resistance

THIS PRODUCT REQUIRES  
AN ACTIVATOR SF 7387™

 **Fixture Speed:** 3 minutes

 **Substrate:** Magnets

**Gap:** 0.02 in

**Temperature Resistance:** 400°F

**Color:** Amber

**Chemistry:** Two-step Acrylic



## AA 392™

### Medium Viscosity

THIS PRODUCT REQUIRES  
AN ACTIVATOR SF 7387™

 **Fixture Speed:** 1 minute

 **Substrate:** Metal

**Gap:** 0.02 in

**Temperature Resistance:** 250°F

**Color:** Amber

**Chemistry:** Two-step Acrylic



## AA 326™

### High Viscosity

THIS PRODUCT REQUIRES  
AN ACTIVATOR SF 7649™

 **Fixture Speed:** 2 minutes

 **Substrate:** Metal

**Gap:** 0.02 in

**Temperature Resistance:** 250°F

**Color:** Light Amber

**Chemistry:** Two-step Acrylic



## Potting

### STRUCTURAL ADHESIVES



#### EA E-30CL™ Water Resistant, Clear

**Work Life:** 30 minutes

**Substrate:** Ceramics, Glass, Metals, Optical Fibers, Rigid Plastics

**Fixture Speed:** 180 minutes

**Temperature Resistance:** 350°F

**Color:** Clear

**Chemistry:** Epoxy



#### EA E-40EXP™ Explosion Proof

**Work Life:** 40 minutes

**Substrate:** Ceramics, Glass, Metals, Optical Fibers, Rigid Plastics

**Fixture Speed:** N/A

**Temperature Resistance:** 300°F

**Color:** Black

**Chemistry:** Epoxy



#### EA E-60NC™ Non-corrosive

**Work Life:** 60 minutes

**Substrate:** Ceramics, Glass, Metals, Optical Fibers, Rigid Plastics

**Fixture Speed:** >180 minutes

**Temperature Resistance:** 250°F

**Color:** Black

**Chemistry:** Epoxy

## Equipment STRUCTURAL ADHESIVES



### DISPENSERS

#### 50 ml

##### Dual Cartridge Applicators

1:1, 2:1, 4:1

Manual: 720228

Pneumatic: 476898

#### 50 ml

##### Dual Cartridge Applicators

10:1 S-Style

1:1, 2:1, 4:1

Manual: 1034026

Pneumatic: 1493310

#### 200 ml

##### Dual Cartridge Applicators

1:1, 2:1

Manual: 218312

Pneumatic: 218311

#### 490 ml

10:1

Pneumatic: 470572



# STRUCTURAL ADHESIVES- 2-STEP ACRYLICS

Product	Item Number	Pack Size	Features	Color	Viscosity [mPa·s, cP]	Gap Fill	Fixture Time [min]	Shear Strength, GBMS	Temperature Resistance
<b>GENERAL PURPOSE</b>									
AA 326™	135402	50 ml	Ferrites to plated materials in electric motors, loudspeakers hardware, jewelry	Transparent, yellow to light amber	18,000	0.02 in. [0.5 mm]	2	2200 psi [15 N/mm <sup>2</sup> ]	32°F TO 250°F (0°C TO 120°C)
AA 330™	1690727	25 ml kit	Metal, wood, ferrite, ceramic, plastic	Cloudy, colorless to pale yellow	65,000	0.02 in. [0.5 mm]	4	3300 psi [23 N/mm <sup>2</sup> ]	32°F TO 250°F (0°C TO 120°C)
AA 331™	1057673	25 ml	Non-corrosive, high temp resistance, high shear and impact, toughened. DC motor assembly, magnet bonding	Light yellow to sand yellow	30,000	0.02 in. [0.5 mm]	20 sec	3100 psi [21 N/mm <sup>2</sup> ]	32°F TO 350°F (0°C TO 175°C)
AA 332™	232743	300 ml	Securing permanent magnets in motors	Opaque light yellow to dark amber	100,000	0.02 in. [0.5 mm]	3	3000 psi [20 N/mm <sup>2</sup> ]	32°F TO 400°F (0°C TO 200°C)
<b>MAGNET BONDING</b>									
AA 392™	232853	25 ml	Rapid cure. Ideal for DC motor assembly, magnet bonding, pre-coated sheet metal	Translucent beige to dark amber	12,000	0.02 in. [0.5 mm]	1	2500 psi [17 N/mm <sup>2</sup> ]	32°F TO 250°F (0°C TO 120°C)

# STRUCTURAL ADHESIVES- 2-PART ACRYLICS

Product	Item Number	Pack Size	Features	Color	Viscosity [mPa·s, cP]	Mix Ratio	Work Time** (min)	Lap Shear Strength	Impact Strength, Steel [joules]	Peel Strength, Steel
<b>GENERAL METAL BONDERS</b>										
AA H8000™	411833	490 ml	Non-sag, superior impact and peel strength, little to no surface prep, rapid room temp cure, excellent environmental resistance	Green	8,850	10:1	30	2800 psi [20 N/mm <sup>2</sup> ]	23	45 pli [8 N/mm]
AA H8003™	2244127	490 ml	Superior impact and peel strength; little/no surface prep; rapid room temp cure; excellent environmental resistance; contains 10ml spacer	Green	20,000 - 50,000	10:1	5	3300 psi [23 N/mm <sup>2</sup> ]	14	15 pli [2 N/mm]
AA H8600™	2060835	400 ml	Superior impact and peel strength; little/no surface prep; rapid room temp cure; excellent environmental resistance; contains 10ml spacer	Green	20,000 - 50,000	10:1	5	3300 psi [23 N/mm <sup>2</sup> ]	14	15 pli [2 N/mm]



PLASTIC AND COMPOSITE BONDERS

<b>AA 3035™</b>	1677288	50 ml	Fast fixture time; bonds to low energy plastics	Pale yellow	14,000	1:1	5	365 psi [2.5 N/mm <sup>2</sup> ]	5.8****	45 pli [8 N/mm]
<b>AA H4800™</b>	2061246	490 ml	Excellent environmental resistance and tolerance to off-ratio mixing; superior impact and peel strength; non-sag gaps	Light yellow	50,000	10:1	30	2300 psi [16 N/mm <sup>2</sup> ]	27 GBMS, 72 hr	80 pli [14 N/mm]

\*\*5 Working time = maximum time before assembly

\*\*\*Galvanized steel

\*\*\*\*HDPE

# STRUCTURAL ADHESIVES - EPOXIES

Product	Item Number	Pack Size	Features	Color	Viscosity [mPa-s, cP]	Mix Ratio	Fixture Time [min]	Lap Shear Strength, Steel	Temperature Resistance
<b>HIGH PERFORMANCE</b>									
<b>EA E-20HP™</b>	237107	50 ml	Excellent bond strength to plastics, metals, dry concrete, limestone	Off -white	30,000	2:1	120	3200 psi [22 N/mm <sup>2</sup> ]	-40°F TO 350°F (-40°C TO 175°C)
	237109	400 ml							
<b>EA E-30CL™</b>	237116	50 ml	Excellent bond strength to plastics, metals, dry concrete, limestone	Off -white	30,000	2:1	120	3200 psi [22 N/mm <sup>2</sup> ]	-40°F TO 350°F (-40°C TO 175°C)
	237118	400 ml							
<b>EA E-40EXP™</b>	1511653	200 ml	Potting electric motors	Black	20,000	2:1	N/A	2060 psi [14 N/mm <sup>2</sup> ]	-40°F TO 300°F (-40°C TO 150°C)
<b>EA E-60HP™</b>	237110	50 ml	Extended work life	Off -white	45,000	2:1	> 180	4320 psi [30 N/mm <sup>2</sup> ]	-40°F TO 350°F (-40°C TO 175°C)
<b>EA E-60NC™</b>	237113	50 ml	Bonding, potting, encapsulating electrical components	Black opaque	8,000	1:1	> 180	2360 psi [16 N/mm <sup>2</sup> ]	-40°F TO 250°F (-40°C TO 120°C)
	237115	400 ml							
<b>EA E-90FL™</b>	219298	50 ml	Resistant to range of chemicals/solvents; excellent electrical insulator; extended work life; plastic, metal, glass, wood, ceramic, rubber, masonry	Grey	40,000	1:1	> 180	810 psi [6 N/mm <sup>2</sup> ]	-40°F TO 350°F (-40°C TO 175°C)
	237106	400 ml							
<b>EA E-120HP™</b>	237128	50 ml	High impact and peel strength; aerospace applications, aluminum, steel, plastics, ceramics	Amber-beige	30,000	2:1	> 180	4300 psi [30 N/mm <sup>2</sup> ]	-40°F TO 350°F (-40°C TO 175°C)
	237130	400 ml							



**FAST FIXTURE**

<b>EA E-00CL™</b>	237095	50 ml	General purpose bonding, potting, or encapsulating	Clear	10,000	1:1	15	2200 psi [15 N/mm <sup>2</sup> ]	-40°F TO 300°F (-40°C TO 150°C)
<b>EA E-00NS™</b>	233962	50 ml	Excellent electrical insulator	Translucent white to yellow paste	100,000	1:1	15	1600 psi [11 N/mm <sup>2</sup> ]	-40°F TO 300°F (-40°C TO 150°C)
<b>EA E-05CL™</b>	237099	50 ml	Ideal for bonding when flexibility is needed	Clear	2,500	1:1	30	1450 psi [10 N/mm <sup>2</sup> ]	-40°F TO 300°F (-40°C TO 150°C)
<b>EA E-05MR™</b>	1086598	50 ml	Forms ultra clear bond line with excellent impact resistance	Water white clear liquid	25,000	1:1	15	3400 psi [23 N/mm <sup>2</sup> ]	-40°F TO 250°F (-40°C TO 120°C)
	1086599	400 ml							

**ONE PART**

<b>EA E-214HP™</b>	234001	300 ml	Excellent peel resistance and impact strength	Light grey paste	Paste	One Component	N/A	4800 psi [33 N/mm <sup>2</sup> ]	-40°F TO 350°F (-40°C TO 175°C)
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**POLYURETHANE**

<b>UK U-05FL™</b>	261797	50 ml	Potting and encapsulating strain and heat-sensitive electronic components	Off-white	100,000	1:1	160	930 psi [6 N/mm <sup>2</sup> ]	-40°F TO 300°F (-40°C TO 150°C)
	237127	400 ml							



# A LONG-LASTING ALTERNATIVE TO WELDING



**“LOCTITE® helped us find a solution to constant spot weld failures that were costing us equipment downtime and repair costs.”**

A paper recycler’s stainless steel filter screens failed regularly in service—every 6 to 8 weeks—due to the erosion of spot welds that caused the mesh to fall into the rotating screen system. The frequent replacement required by these failures caused equipment downtime and labor costs. **LOCTITE® E-20HP™**, a structural adhesive that is resistant to peel and shear forces, was the perfect solution. A LOCTITE® engineering solutions expert walked the team through the process, from ground washing the screen mesh and filter to remove any paper recycling debris and chemical residues, to dispensing from a 50 ml. dual cartridge, to positioning and weighting the replacement mesh. The new process has lowered filter replacement costs, labor repair costs and doubled uptime between process downtime, thereby increasing recycling production output.

## Benefits

### LOCTITE® E-20HP™ Structural Adhesive:

- Provides the needed durability to withstand the abrasive forces in the filter process
- Replaces spot welds and holds the fine filter mesh in place for more than 16 weeks
- Offers cost savings by reducing equipment down time and labor costs





**LOCTITE®**

**U.S.A.**

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