Technical Data Sheet

LOCTITE® EA E-120HP

LOCTITE® EA E-120HP September 2026

Product description

LOCTITE® EA E-120HP provides the following product characteristics:

Technology	Epoxy
Chemical type	Epoxy
Chemical type (hardener)	Polyamide
Appearance (resin)	Off-white to beige liquid[LMS]
Appearance (hardener)	Amber liquid
Appearance (mixed)	Amber-beige
Components	Two components - requires mixing
Viscosity	High
Mix Ratio, (by volume) resin : hardener	2 : 1
Mix Ratio, (by weight) resin : hardener	100 : 46
Cure	Room temperature cure after mixing
Application	Bonding

LOCTITE® EA E-120HP is a high viscosity industrial grade epoxy adhesive with extended work life. Once mixed, the two component epoxy cures at room temperature to form a tough, amber-beige bondline with excellent resistance to peel and impact forces. When fully cured, the epoxy offers superior thermal shock resistance, excellent mechanical and electrical properties, and withstands exposure to a wide variety of solvents and chemicals. Typical applications include bonding nose cones in aerospace applications. Bonds dissimilar materials including aluminum, steel, and other metals, as well as a variety of plastics and ceramics.

Typical properties of uncured material

Resin	
Specific gravity @ 25°C	1.1
Flash point - see SDS	
Viscosity, Brookfield - RVT, 25°C, mPa·s (cP):	
Spindle 7, speed 50 rpm,	41,000 to 61,000[LMS]
Hardener	
Specific gravity @ 25°C	1.0
Flash point - see SDS	
Viscosity, Brookfield - RVT, 25°C, mPa·s (cP):	
Spindle 5, speed 50 rpm,	2,000 to 4,000[LMS]

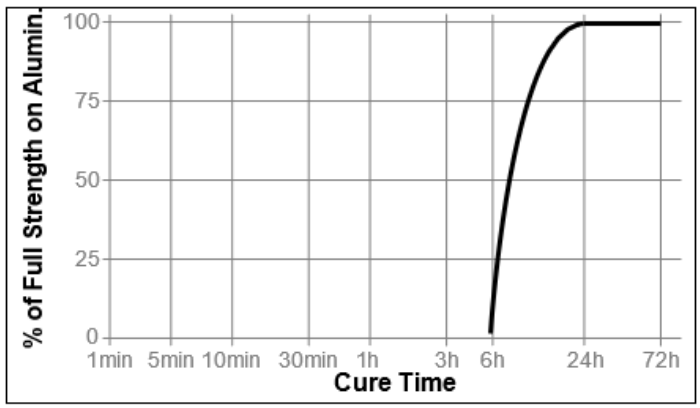
Mixed properties

Specific gravity @ 25°C	1.1
Working life, minutes	120
Tack free time (low humidity), minutes	140

Typical curing performance

Cure speed vs. time

The graph below shows shear strength developed with time on abraded, acid etched aluminum lapshears @25°C with an average bondline gap of 0.1 to 0.2 mm and tested according to ISO 4587.



Typical properties of cured material

Cured for 7 days @22°C

Physical properties:

Glass transition temperature, ASTM E 1640		90
Shore Hardness, ISO 868, Durometer D:		
Cured @22°C for 16 to 18 hours followed by 2 hours @65°C		76 to 90[LMS]
Elongation , ISO 527-5, %		10
Tensile Strength, ISO 527-2	N/mm^2 (psi)	41 (5,900)

Electrical properties

Dielectric breakdown strength, IEC 60243-1, kV/mm	25

Typical performance of cured material

Adhesive properties

Cured @ 65°C for 2 hours

Lap Shear Strength, ISO 4587:

Aluminum, (acid etched)	N/mm² (psi)	≥13.7[LMS] (≥1,986)

Cured @ 65°C for 12 hours

Lap Shear Strength, ISO 4587:

Steel (grit blasted)	N/mm² (psi)	30 (4,300)
Aluminum, (etched & abraded), 0.1 to 0.2 mm gap	N/mm² (psi)	33 (4,800)
Aluminum, (anodised)	N/mm² (psi)	14 (2,100)
Stainless steel	N/mm² (psi)	23 (3,400)
Polycarbonate	N/mm² (psi)	6.9 (1,000)
Nylon	N/mm² (psi)	2.3 (330)
Wood (Fir)	N/mm² (psi)	11.3 (1,600)

Block Shear Strength, ISO 13445:

PVC	N/mm² (psi)	12 (1,700)
ABS	N/mm² (psi)	7.6 (1,100)
Epoxy glass	N/mm² (psi)	20 (2,900)
Acrylic	N/mm² (psi)	1.5 (220)
Glass	N/mm² (psi)	23 (3,300)

Typical environmental resistance

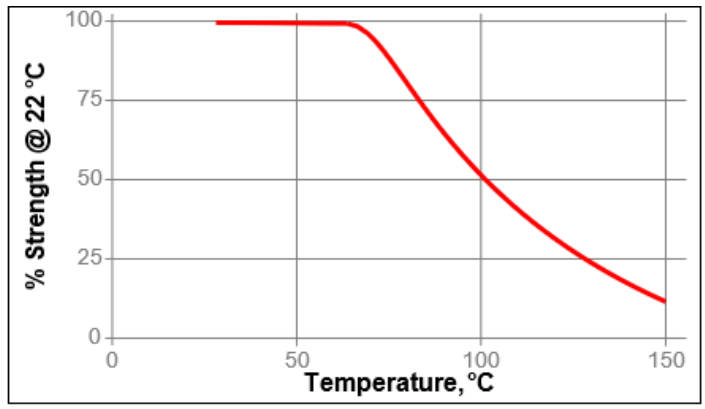
Cured for 12 hours @ 65°C followed by 4 hours @ 22°C

Lap Shear Strength, ISO 4587:

Aluminum, (etched & abraded), 0.1 to 0.2 mm gap

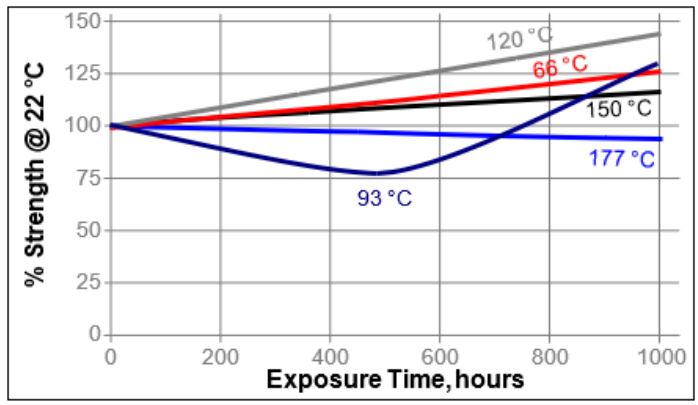
Hot Strength

Tested at temperature



Heat Aging

Aged at temperature indicated and tested @ 22 °C.



Chemical/solvent resistance

Aged under conditions indicated and tested @ 22°C.

		% of initial strength	
Environment	**°C**	**500 h**	**1000 h**
Air	87	-	100
Motor oil (10W30)	87	125	120
Unleaded gasoline	87	-	105
Water/glycol 50/50	87	90	90
Salt fog	22	-	45
95% RH	38	-	80
Condensing Humidity	49	-	60
Water	22	-	70
Acetone	22	-	100
Isopropanol	22	-	110

GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.

For safe handling information on this product, consult the Safety Data Sheet (SDS).

Directions for use

1. For high strength structural bonds, remove surface contaminants such as paint, oxide films, oils, grease, dust, mold release agents and all other surface contaminants.
2. The best application temperature is between 18°C and 25°C.
3. Dual Cartridges: To use, simply insert the cartridgeinto the dispensing gun and start the plunger into the cylinders using light pressure on the trigger. Next, remove the cartridge cap and expel a small amount of adhesive to be ensure both components are flowing evenly and freely. If automatic mixing of resin and hardener is desired, attach the mixing nozzle to the end of the cartridge and begin dispensing the adhesive. We recommend the use of commercial dispensing equipment, such as pneumatic or battery-operated dispensing guns, to ensure smooth and consistent adhesive application (e.g. LOCTITE EQ HD 14 pneumatic.
4. **Bulk Containers:** Mix thoroughly by weight or volume in the proportions specified in Product Description section. After a uniform color has been achieved, continue mixing for approximately 15 seconds to ensure complete homogeneity.
5. Do not mix quantities greater than 4 kg, as excessive heat generation may occur due to the exothermic reaction. Mixing smaller quantities helps minimize heat build-up.
6. Apply the adhesive as quickly as possible after mixing to one surface to be joined. For maximum bond strength, apply adhesive evenly to both surfaces. Parts should be assembled immediately after the mixed adhesive has been applied.
7. Keep the assembled parts from moving during curing. The bond should be allowed to cure 24 hours before subjecting to any service loads.
8. Remove excess uncured adhesive with a suitable organic solvent (e.g., acetone).

Application equipment

To apply the product correctly, a pneumatic hand gun e.g. LOCTITE® EQ HD 14 or an electric dispenser must be used. Manual hand guns are not suitable for this product.

Processing

The best application temperature is between 18°C and 25°C. The Direct Glazing Sealant Terostat 9097 PL HMLC is processed from the cartridge using commercial equipment such as air pressed guns or battery operated guns. From the Teroson application equipment, for instance the following pistols can be used:

The instructions included in the Teroson Glazing Repair Set contain a detailed description of the repair operation.

Loctite material specification[LMS]

LMS dated April 10, 2006. Test reports for each batch are available for the indicated properties. LMS test reports include selected QC test parameters considered appropriate to specifications for customer use. Additionally, comprehensive controls are in place to assure product quality and consistency. Special customer specification requirements may be coordinated through Henkel Loctite Quality.

Storage

Store product in the unopened container in a dry location. Storage information may be indicated on the product package labeling.
Optimal storage: 8 to 21 °C. Storage below 8°C or greater than 28°C can adversely affect product properties.
Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Henkel representative.

Product specification
The technical data contained herein are intended as reference only and are not considered specifications for the product. Product specifications are located on the Certificate of Analysis or please contact Henkel representative.

Approval and certificate
Please contact Henkel representative for related approval or certificate of this product.

Data ranges
The data contained herein may be reported as a typical value. Values are based on actual test data and are verified on a periodic basis.
Temperature/Humidity Ranges: 23°C / 50% RH = 23±2°C / 50±5% RH

Conversions
(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
µm / 25.4 = mil
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm² x 145 = psi
MPa x 145 = psi
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

Disclaimer
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