



March 2017

PRODUCT DESCRIPTION

LOCTITE® EA E-102 provides the following product characteristics:

Technology	Epoxy
Appearance (uncured) (Resin)	Opaque Liquid
Appearance (uncured) (Hardener)	Amber Colored Liquid
Components	2
Mixing Ratio (by volume)	1: 1
Mixing Ratio (by weight)	100 : 80
Application	Bonding
Key Substrates	Metals, Rigid Plastic, Wood, Ceramics, Foams/ Honeycomb in S/W panels

Loctite E102 is a two-part adhesive consisting of an epoxy resin and a hardener. When mixed in equal volumes, the resin and hardener react to produce a tough, rigid, high strength bond which starts to set in 90-120 minutes and reaches handling strength in 5.5 hours. It can be used as an adhesive for a wide range of material metal, glass, ceramic, wood, many rigid plastics etc. Cured adhesive is electrically insulator in nature. Following are key advantages:

- Long open time
- Develops fixture strength quickly
- Easy to apply throughout work-life
- Can be used for potting applications

TYPICAL PROPERTIES OF UNCURED MATERIAL

Resin:

Viscosity @ 25 °C (cP): 11,000-22,000
Density, gm/cc : 1.15-1.18

Hardener:

Viscosity @ 25 °C (cP): 25,000-45,000
Density, gm/cc : 0.94 - 0.98

Mixed:

Viscosity (cP) : 16,000 – 18,000

PERFORMANCE OF CURED MATERIAL

After 24 hours @ 25°C, ASTM D1002
Tested at Room Temperature

Substrates	Typical Value (MPa)
GBMS	18
Stainless Steel	8.6
Aluminum	5.4
ABS	Substrate Failure
PVC	1.9
Wood	Substrate Failure
Glass	Substrate Failure
EPDM Rubber	Substrate Failure

TYPICAL CURING PERFORMANCE

Gel time 100g @ 25 °C: 80-120 min
Hardness after 24 hrs. - RT cure: >60 Shore D

Directions for Use:

1. For high strength structural bonds, remove surface contamination such as paint, oxide films, oils, dust, mold release agents and all other surface contaminates.
2. Use gloves to minimize skin contact. DO NOT use solvents for cleaning hands.
3. For maximum bond strength apply adhesive evenly to both surfaces to be joined.
4. Application to the substrates should be made within 90 minutes. Larger quantities and/or higher temperatures will reduce this working time.
5. Join the adhesive coated surfaces and allow to cure at 25°C for 24 hours for high strength.
6. Keep parts from moving during cure. Contact pressure is necessary. Maximum shear strength is obtained with a 50 – 75 micron bond line.
7. Excess uncured adhesive can be cleaned up with ketone type solvents.

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 Material Safety Data Sheet (MSDS).

Caution: Use an approved, positive-pressure, supplied air respirator when welding or torch cutting near cured compound. **Do Not** use open flame on compound.

Technical Tips for Working with Epoxies

Working time and cure depends on temperature and mass: Higher the temperature, the faster the cure. Larger the mass of material, the faster the cure.

To speed the cure of epoxies at low temperatures:

- Store epoxy at room temperature.
- Pre-heat repair surface until warm to the touch.

Slow the cure of epoxies at high temperatures:

- Mix epoxy in small masses to prevent rapid curing.
- Cool resin/hardener component(s).

Storage

Store product in the unopened container in a dry location. Optimal Storage: 15 °C to 25 °C. Henkel cannot assume responsibility for product which has been contaminated or stored under conditions other than those recommended. Shelf life of the product in unopened containers when stored as per recommendation is 1 year.

If additional information is required, please contact your local Technical Service Center or Customer Service Representative.

Conversions

$$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$$

$$\text{kV/mm} \times 25.4 = \text{V/mil}$$

$$\text{mm} / 25.4 = \text{inches}$$

$$\text{m} / 25.4 = \text{mil}$$

$$\text{N} \times 0.225 = \text{lb N/mm}$$

$$\times 5.71 = \text{lb/in N/mm}^2$$

$$\times 145 = \text{psi MPa}$$

$$145 = \text{psi N}\cdot\text{m}$$

$$8.851 = \text{lb}\cdot\text{in N}\cdot\text{m}$$

$$0.738 = \text{lb}\cdot\text{ft N}\cdot\text{mm}$$

$$0.142 = \text{oz}\cdot\text{in mPa}\cdot\text{s}$$

$$= \text{cP}$$

Note

The developmental product for which the data provided herein is furnished for informational purposes only and are believed to be accurate and reliable. Nevertheless, Henkel cannot and will not assume responsibility for the results obtained by others over whose production methods we have no control. Thus, it is the user's responsibility to determine the suitability of this developmental product for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling, storage, disposal and use thereof. In light of the foregoing, **HENKEL**

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