

LOCTITE® EA E-3596™Known as LOCTITE® E-3596™
June 2017**PRODUCT DESCRIPTION**

LOCTITE® EA E-3596™ provides the following product characteristics:

Technology	Epoxy
Appearance	Brown paste
Cure	Heat cure
Application	Assembly
Product Benefits	• High strength • Excellent durability • Excellent heat resistance
Specific Application	• Heat exchanger coil bonding • Electric motor assembly • Pump and compressor component bonding

LOCTITE® EA E-3596™ is a single component heat cured epoxy adhesive. This epoxy combines the structural strength of conventional epoxies with very high heat resistance and durability. It has excellent adhesion to many metal surfaces. LOCTITE® EA E-3596™ also has good adhesion to a variety of other surfaces, including many thermoset plastics and composite materials. The high bond strength of the product allows it to be used in many applications in place of mechanical fastening, soldering, brazing or welding. This product is typically used in applications with an operating range of -40 °C to 175 °C and can intermittently reach temperatures up to 200 °C.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity, g/cm³	1.5
Extrusion Rate, seconds to extrude 20 g	100
Sag (380 mil bead)	0

TYPICAL CURING PERFORMANCE**Cure Schedule**

40 min @ 135°C
30 min @ 150°C
10 min @ 165°C
3 min @ 175°C

Cure at any one of the recommended cure schedules.

Alternate cure schedules may also be possible. Contact your Henkel representative for further information.

This product may generate excessive heat if cured in thicknesses greater than 6.4 mm (0.25 inch) at a temperature

above 150°C

Curing large or massive assemblies may require additional time to reach the cure temperature

TYPICAL PERFORMANCE OF CURED MATERIAL**Shear Strength**

Steel	N/mm² 17.2 (psi) (2,500)
Stainless steel	N/mm² 13.8 (psi) (2,000)
Aluminum	N/mm² 17.2 (psi) (2,500)
Copper	* N/mm² 13.8 * (psi) (2,000)
Brass	* N/mm² 13.8 * (psi) (2,000)
SMC	* N/mm² 6.9 * (psi) (1,000)
Ferrite to Steel	* N/mm² 6.9 * (psi) (1,000)

* substrate failure

GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be used with chlorine or other strong oxidizing materials.

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

Directions for use:

1. For best performance surfaces for bonding should be clean, dry and free of grease. For high strength structural bonds, special surface treatments can increase the bond strength and durability.
2. It is recommended that this product is not cured in large quantities as excessive heat build-up and uncontrolled exothermal runaway can occur. Curing smaller quantities will minimize the heat build-up.
3. For maximum bond strength apply adhesive evenly to the surface to be bonded. Parts should be assembled immediately after adhesive has been applied.
4. Excess uncured adhesive can be wiped away with organic solvent (e.g. Acetone).
5. Cure adhesive as recommended in section 'Typical Cure Performance'. Some additional fillet may form due to

lowering of product viscosity with temperature.

6. Keep assembled parts from moving during cure. The bond should be allowed to develop full strength before subjecting to any service load.
7. After use and before adhesive hardens mixing and dispensing equipment should be cleaned with hot soapy water.

Not for product specifications

The technical data contained herein are intended as reference only. Please contact your local quality department for assistance and recommendations on specifications for this product.

Storage

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage: -20 °C to -30 °C. Storage below minus (-)30 °C or greater than minus (-)20 °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 Technical Service Center or Customer Service Representative.

Conversions

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$
 $\text{kV/mm} \times 25.4 = \text{V/mil}$
 $\text{mm} / 25.4 = \text{inches}$
 $\mu\text{m} / 25.4 = \text{mil}$
 $\text{N} \times 0.225 = \text{lb}$
 $\text{N/mm} \times 5.71 = \text{lb/in}$
 $\text{N/mm}^2 \times 145 = \text{psi}$
 $\text{MPa} \times 145 = \text{psi}$
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$
 $\text{mPa}\cdot\text{s} = \text{cP}$

Note:

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

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Reference 0.2