Technical Data Sheet

LOCTITE® EA 3472 EU

May 2017

PRODUCT DESCRIPTION

LOCTITE® EA 3472 EU provides the following product characteristics:

Technology	Epoxy
Chemical Type	Epoxy
Appearance (Resin)	Grey Liquid
Appearance (Hardener)	Grey Liquid
Appearance (Mixed)	Grey
Components	Two components - requires mixing
Mix Ratio, (by volume) Resin : Hardener	1 : 1
Mix Ratio, by weight - Resin : Hardener	1 : 1
Cure	Room temperature cure after mixing
Application	Metal Repair
Specific Benefits	• Castable liquid - repairs hard to reach areas • Rebuilds worn parts fast - limits downtime • High steel content - cures to a metal-like finish • Superior adhesion - bonds well to all metal substrates

LOCTITE® EA 3472 EU is two-part steel filled epoxy adhesive that is ideal for the repair and recovery of worn and damaged machinery. Typical applications include repairing worn parts such as shafts, housings, keyways, and flanges, as well as broken or damaged parts including castings, pipes, or fabrications. This product can be used in a variety of jobs including filling cavities, leveling machinery, repairing cast-steel plates, making core molds, applying a sacrificial coating, or sealing leaking pipes. This product is typically used in applications with an operating range of -20°C to +120 °C.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Resin:

Weight per volume	kg/L (lbs/gal)	2.3 to 2.4 (19.2 to 20)
Viscosity, Brookfield - RV, 25 °C, mPa·s (cP): Spindle 7, speed 20 rpm		80,000 to 120,000

Hardener:

Weight per volume	kg/L (lbs/gal)	2.4 to 2.5 (20.0 to 20.9)
Viscosity, Brookfield - RV, 25 °C, mPa·s (cP): Spindle 7, speed 20 rpm		100,000 to 125,000

TYPICAL CURING PERFORMANCE

Curing Properties

Pot Life @ 25°C, minutes:	40 to 50
Open time (mixed), minutes:	
@ 10°C	180
@ 20°C	60
@ 30°C	40

TYPICAL PROPERTIES OF CURED MATERIAL

Cured 25 °C except where noted

Physical Properties:

Tensile Strength, ISO 527-2	N/mm²	65
	(psi)	(9,400)
Tensile Modulus, ISO 527-2	N/mm²	6,000
	(psi)	(870,000)
Compressive Strength, ISO 604	N/mm²	70
	(psi)	(10,000)
Compressive Modulus, ISO 604	N/mm²	6,000
	(psi)	(870,000)
Shore Hardness, ISO 868, Shore D		85

TYPICAL PERFORMANCE OF CURED MATERIAL

Lap Shear Strength, ISO 4587:

Grit Blasted Mild Steel (GBMS)	N/mm²	25
	(psi)	(3,600)
Aluminum	N/mm²	20
	(psi)	(2,900)

TYPICAL ENVIRONMENTAL RESISTANCE

Solvent Resistance

Like most epoxy resin based materials, LOCTITE® EA 3472 EU has excellent resistance to many liquids and solvents. The following table may be used as a guide:

Solvent Types	Product Performance
Water, Dilute acids, Salt solution	Excellent; some surface discoloration may occur
10 % Caustic Soda	Excellent
Gasoline - Hydrocarbon fuels and lubricants	Excellent
Chlorinated solvents	Good resistance but not recommended for continuous long term contact
Methanol, Acetone, MEK	Poor resistance

NOTE: This information refers to fully cured material. Incomplete cure or inadequate mixing will adversely affect solvent resistance.

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).

Surface Preparation

Proper surface preparation is critical to the long-term performance of this product

Directions for use

1. Remove dirt, oil, grease, etc. with a suitable cleaner, e.g. high pressure water cleaning system using LOCTITE® SF 7840™.

2. Blast all surfaces to be coated with a sharp edged angular grit to a depth of profile of 75 to 100 microns and a degree of cleanliness of Near White Metal (SIS SA 2½ /SSPC-SP 10).

3. After blasting, metal surfaces should be cleaned with waterless cleaner, e.g. with LOCTITE® SF 7063™, and be coated before any oxidation or contamination takes place.

4. Metal that has been in contact with salt solutions, e.g. seawater, should be grit blasted, high-pressure water blasted, and left for 24 hours to allow any salts in the metal to sweat to the surface. A test for chloride contamination should be performed. The procedure should be repeated until chloride concentration on the surface is below 40 ppm.

Application

1. Mix resin and hardener according to mix ratios listed or transfer entire kit onto a clean and dry mixing surface and mix material vigorously until a uniform color is obtained.
2. Apply material to prepared surface by first forcing a thin layer deep into the texture of the substrate
3. Then immediately build up to the desired finished thickness

Inspection

- Visually inspect for pinholes and misses just after application.
- Once the coating has cured, repeat visual inspection to confirm freedom from pinholes, misses and mechanical damages.
- Control thickness of the coating, especially in the critical points.
- Perform a test with a holiday detector to confirm coating continuity.

Coverage

To achieve a 5 mm (0.2 in) thickness, the coverage rate will be 416 cm² (64 in²) for 0.5 kg (1.1lb), excluding overthickness, repairs, etc.

Repairs

Any voids, pinholes, or low thickness areas found in the coating should be repaired by lightly abrading, cleaning, and applying further product.

Clean-up

Immediately after use clean tools with suitable cleaner, e.g. LOCTITE® 7070™ or solvent such as acetone or isopropyl alcohol. Once cured, the material can only be removed mechanically.

Technical Tips for Working With Epoxies

Environmental Conditions

- Relative humidity: <85%
- Ambient temperature: >15°C (60°F) and rising
- Substrate temperature must always be 3°C (7°F) higher than the dew point to avoid condensing moisture on parts.

Working time and cure depends on temperature and mass:

- The higher the temperature, the faster the cure.
- The larger the mass of material mixed, 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.

To slow the cure of epoxies at high temperatures:

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

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: 8 °C 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.

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

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