

LOCTITE® EA 3472

Known as LOCTITE® 3472
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PRODUCT DESCRIPTION

LOCTITE® EA 3472 provides the following product characteristics:

Technology	Epoxy
Chemical type	Epoxy
Appearance (resin)	Grey liquid
Appearance (hardener)	Grey liquid
Appearance (mixed)	Grey
Components	Two components - resin & hardener
Mix Ratio, (by weight) resin : hardener	1 : 1
Mix Ratio, (by volume) resin : hardener	1 : 1
Cure	Room temperature cure after mixing
Application	Industrial maintenance
Application temperature	15°C to 30°C (59°F to 86°F)
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 is a 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 (-4°F to 248°F).

Typical properties of uncured material

Resin

Weight per volume	kg/L (lbs/gal)	2.35 (19.6)
Viscosity, brookfield – RVF @ 25°C, mPa.s (cP): Spindle 7, speed 100 rpm		100 000

Hardener

Weight per volume	kg/L (lbs/gal)	2.35 (20.45)
Viscosity, brookfield – RVF @ 25°C, mPa.s (cP): Spindle 7, speed 20 rpm		112 500

Typical curing performance

Curing @ 23°C

Pot life (200 g mass), ISO 9514, minutes	40
Working life, minutes	
10°C	180
20°C	60
30°C	40

Typical performance of cured material

Cured for 1 week @ 23 °C

Physical properties:

Tensile Strength, ISO 527-2	N/mm ² (psi)	6000 (840 000)
Tensile Modulus, ISO 527-2	N/mm ² (psi)	65 (9 400)
Compressive strength, ISO 604	N/mm ² (psi)	70 (10 000)
Compressive modulus, ISO 604	N/mm ² (psi)	6000 (870 000)

Adhesive properties

Lap Shear Strength, ISO 4587

Mild steel (grit blasted)	N/mm ² (psi)	25 (3600)
Aluminum	N/mm ² (psi)	20 (2900)

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.

Directions for use**Surface preparation**

Proper surface preparation is critical to the long-term performance of this product. The exact requirements vary with the severity of the application, expected service life, and initial substrate conditions.

1. Remove dirt, oil, grease, etc. with a suitable cleaner, e.g. high-pressure water cleaning system using LOCTITE® cleaner/degreaser.
2. All skip welds, weld spatter, buckshot, and other surface roughness must be ground down; undercuts and pinholes must be ground and filled. All projections, edges, high points, and fillets must be ground to radius of at least 3mm and all corners must be likewise rounded to maximize product performance.
3. 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). For immersion service, a degree of cleanliness of white metal (SIS SA 3/SSPC-SP 5) is required.
4. After blasting, metal surfaces should be cleaned, e.g. with LOCTITE® solvent based, residue free cleaner, and be coated before any oxidation or contamination takes place.
5. Metal that has been in contact with salt solutions, e.g. seawater, should be grit blasted and high-pressure water blasted, 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 30mg/m² (3µg/cm²). Then blast and clean the surface as described on point 3 and 4 above.

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

1. Visually inspect for pinholes and voids just after application.
2. Once the coating has cured, repeat visual inspection to confirm it is free from pinholes, misses and mechanical damages.
3. Control thickness of the coating, especially in the critical points.

Coverage

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

Repairs

Any voids, pinholes, 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 LOCTITE® solvent based cleaner. Once cured, the material can only be removed mechanically.

Storage

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

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

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

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

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

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

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

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

$\text{N/mm}^2 \times 145 = \text{psi}$

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

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

$\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$

$\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$

$\text{mPa}\cdot\text{s} = \text{cP}$

Disclaimer

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