Technical Data Sheet

LOCTITE® EA 3463

Known as LOCTITE® 3463 Metal Magic Steel Stick
December 2020

PRODUCT DESCRIPTION

LOCTITE® EA 3463 provides the following product characteristics:

Technology	Epoxy
Chemical Type	Epoxy
Appearance (resin)	Paste grey
Appearance (hardener)	Paste black
Appearance (mixed)	Metallic black
Components	Two components – resin & hardener
Cure	Room temperature cure after mixing
Application	Metal Repair
Application Temperature	15 to 30°C (59 to 86°F)
Specific Benefits	• Cures under water and will adhere to most damp surfaces • Adheres to most types of clean surfaces • Cures in 10 minutes for fast repairs • Epoxy adhesive stick applies like putty and cures to a steel-like finish

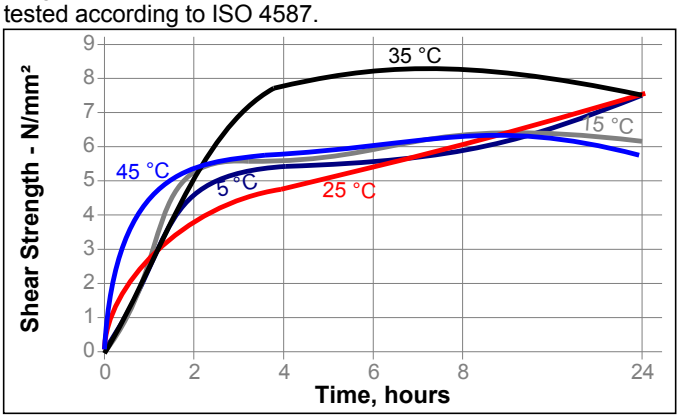
LOCTITE® EA 3463 is a two component steel filled epoxy resin system. It is ideal for restoring metal parts worn by mechanical and/or corrosion. It is applied like a putty and when cured it has a high compressive strength and good adhesion to most surfaces. Typical applications include stopping leaks in pipes and tanks, filling oversized bolt holes, smoothing welds, and repairing non-structural defects in castings holes in tanks.

TYPICAL CURING PERFORMANCE

Gel Time, ASTM D2471, minutes	3
Working Time @ 23 °C, minutes	4
Cure Time @ 23 °C, minutes	10

Cure Speed vs. Temperature

The graph below shows the shear strength developed with time on grit blasted steel lap shears at different temperatures and tested according to ISO 4587.



TYPICAL PERFORMANCE OF CURED MATERIAL

Cured for 1 week @ 23°C

Physical Properties:

Glass Transition Temperature (Tg) TMA, ISO 11359-2		54
Shore Hardness ISO 868, Durometer D		70
Elongation, ISO 527-5, %		0.3
Tensile Strength, ISO 527-2	N/mm² (psi)	18.8 (2,700)
Tensile Modulus, ISO 527-2	N/mm² (psi)	105 (15,000)
Compressive Strength, ISO 604	N/mm² (psi)	50 (7,300)
Compressive Modulus, ISO 604	N/mm² (psi)	6,100 (890,000)
Coefficient of Thermal Expansion, K^{-1} ISO 11359-1:		
Below Tg		29×10^{-6}
Above Tg		115×10^{-6}
Coefficient of Thermal Conductivity W/(m·K) ISO 8302		1.02

Electrical Properties:

Surface Resistivity, IEC 60093, ohms	46×10^{12}
Volume Resistivity, IEC 60093, ohm-cm	110×10^{12}

Adhesive Properties:

Lap Shear Strength, ISO 4587:		
Mild Steel (Grit Blasted)	N/mm² (psi)	3.5 (500)

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:

Surface Preparation

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

Application

1. **CAUTION**: Do not apply to surfaces above 66 °C (150F).
2. Apply to clean and dry surface for best strength. LOCTITE® EA 3463 can be applied to wet surfaces, but bond strength will be lower.
3. For maximum adhesion, clean and sand surface.
4. Use gloves; do not mix with bare hands.
5. Cut required amount of material from stick. Remove clear plastic wrapper from cut section.
6. To mix, first twist the material to produce a spiral pattern of resin and hardener. Next, knead material for 2-3 minutes or until a uniform color is achieved.
7. Firmly apply for patch, repair or bonding.
8. For a smooth finish, wet a cloth or gloved finger with water and smooth.

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.

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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Reference N/A