Technical Data Sheet

LOCTITE® EA E-00NS™

August 2020

PRODUCT DESCRIPTION

LOCTITE® EA E-00NS™ provides the following product characteristics:

Technology	Epoxy
Chemical type (resin)	Epoxy
Chemical type (hardener)	Mercaptan
Appearance (resin)	Translucent white to yellow paste[LMS]
Appearance (hardener)	Clear colorless to slightly yellow liquid[LMS]
Appearance (mixed)	Translucent to yellow solid[LMS]
Components	Two components – requires mixing
Mix ratio, (by volume) Resin : Hardener	1 : 1
Mix ratio, (by weight) Resin : Hardener	100 : 92
Cure	Room temperature cure after mixing
Application	Bonding

LOCTITE® EA E-00NS™ is a fast setting, non-sagging, thixotropic, industrial grade epoxy adhesive. Once mixed, the two component epoxy cures at room temperature to form a translucent, rigid, machineable bondline. When fully cured, the epoxy is resistant to a wide range of chemicals and solvents,and acts as an excellent electrical insulator. Typical applications include bonding plastic, metal, glass, wood,ceramic, rubber, and masonry materials. Its non-sagging formula is especially suited for use on vertical surfaces to avoid run-off, as well as staking fillet bonds and general industrial repairs. Designed for use in component assembly, appliances,electronics, & fiber optics.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Resin

Specific gravity @ 25 °C	1.1 to 1.3[LMS]
Viscosity @25°C, mPa·s (cP)	200,000 to 700,000
Flash point - see SDS	

Hardener

Specific gravity @ 25 °C	1.0 to 1.2[LMS]
Viscosity @25°C, mPa·s (cP)	20,000 to 70,000[LMS]
Flash point - see SDS	

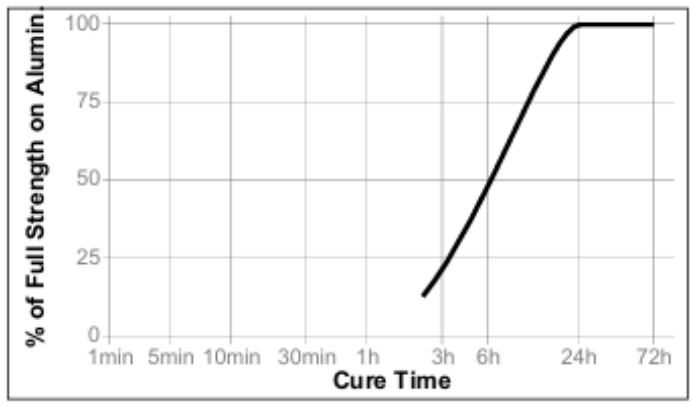
Mixed

Specific gravity @ 25 °C	1.15
Working life, minutes	3
Tack free time, minutes	3.5
2 Grams, 60° Angle	≤2.54[LMS]

TYPICAL CURING PERFORMANCE

Cure speed vs. time

The graph below shows shear strength developed with time on abraded, acid etched aluminum lapshears @ 25°C with an average bondline gap of 0.1 to 0.2 mm and tested according to ISO 4587.



Gel Time

Gel time, 25°C, minutes	2 to 6[LMS]

TYPICAL PERFORMANCE OF CURED MATERIAL

Cured @25°C

Physical Properties

Glass transition temperature (Tg), °C		20
Shore hardness ISO 868, Durometer D		80
Elongation, ISO 527-2, %		15
Tensile Strength, ISO 527-2	N/mm^2	10
	(psi)	(1,500)

Electrical Properties

Dielectric breakdown strength, IEC 60243-1, kV/mm	16

TYPICAL PERFORMANCE OF CURED MATERIAL

Cured for 5 days @ 22°C

Adhesive properties

Lap Shear Strength, :

Steel (grit blasted)	N/mm² (psi)	11 (11,600)
Aluminum (Acid Etched & Abraded) 0.1 to 0.2 mm gap	N/mm² (psi)	17 (2,500)
Aluminum (anodised)	N/mm² (psi)	8 (1,200)
Stainless Steel	N/mm² (psi)	4.3 (620)
Polycarbonate	N/mm² (psi)	3.20 (460)
Nylon	N/mm² (psi)	1.0 (150)
Wood (Fir)	N/mm² (psi)	10 (1,400)

Block Shear Strength, ISO 13445:

PVC	N/mm² (psi)	13 (1,900)
ABS	N/mm² (psi)	3.2 (460)
Epoxy	N/mm² (psi)	9 (1,300)
Acrylic	N/mm² (psi)	1.7 (250)
Glass	N/mm² (psi)	27 (3,900)

Cured for 2 hours @ 65°C

Lap shear strength:

Aluminum (acid etched), 0.13 mm gap	N/mm² (psi)	≥ 3.4[LMS] (≥493)

TYPICAL ENVIRONMENTAL RESISTANCE

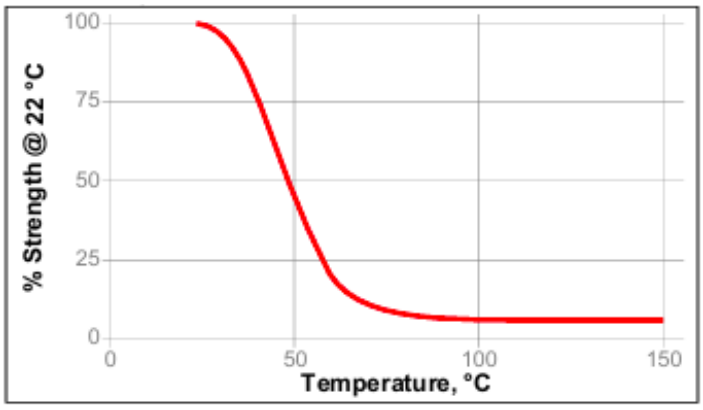
Cured for 12 hours @ 65°C followed by 4 hours @ 22°C

Lap shear strength:

Aluminum (acid etched & abraded), 0.1 to 0.2 mm gap

Hot strength

Tested at temperature



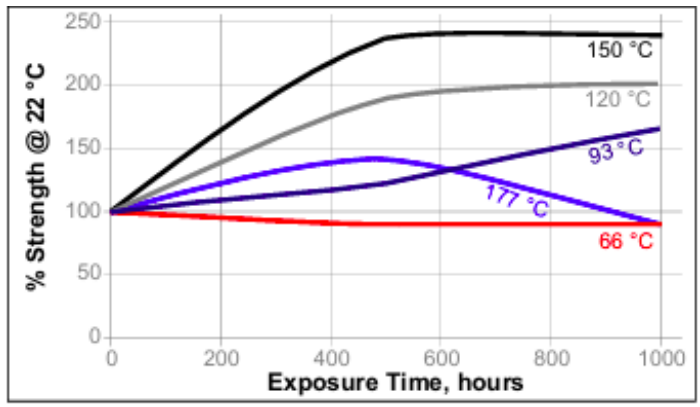
Cured for 5 days @22°C

Lap shear strength:

Steel

Heat aging

Aged at temperature indicated and tested @ 22°C.



Chemical/solvent resistance

Aged under conditions indicated and tested @ 22°C.

		% of initial strength	
Environment	°C	500 h	1000 h
Air	87	85	95
Motor oil (10W30)	87	91	84
Unleaded gasoline	87	92	91
Water/glycol 50/50	87	60	43
Salt fog	22	23	21
95% RH	38	35	25
Condensing Humidity	49	17	11
Water	22	58	33
Acetone	22	63	61
Isopropanol	22	106	96

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).

Direction for use

1. For high strength structural bonds, remove surface contaminants such as paint, oxide films, oils, dust, mold release agents and all other surface contaminants.
2. Use gloves to minimize skin contact. DO NOT use solvents for cleaning hands.
3. **Dual Cartridges:** To use simply insert the cartridge into the application gun and start the plunger into the cylinders using light pressure on the trigger. Next, remove the cartridge cap and expel a small amount of adhesive to be sure both sides are flowing evenly and freely. If automatic mixing of resin and hardener is desired, attach the mixing nozzle to the end of the cartridge and begin dispensing the adhesive. For hand mixing, expel the desired amount of the adhesive and mix thoroughly. Mix for approximately 15 seconds after uniform color is obtained.
4. **Bulk Containers:** Mix thoroughly by weight or volume in the proportions specified in product description section. Mix vigorously, approximately 15 seconds after uniform color is obtained.
5. For maximum bond strength apply adhesive evenly to both surfaces to be joined.
6. Application to the substrates should be made within 90 minutes. Larger quantities and/or higher temperatures will reduce this working time.
7. Join the adhesive coated surfaces and allow to cure at 25°C for 24 hours for high strength. Heat up to 93°C, will speed curing.
8. Keep parts from moving during cure. Contact pressure is neccesary. Maximum shear strength is obtained with a 0.1 to 0.2 mm bond line.
9. Excessive uncured adhesive can be cleaned up with ketone type solvents.

Loctite material specification[LMS]

LMS dated July 19, 2001 (Resin) and LMS dated July 19, 2001 (Hardener). Test reports for each batch are available for the indicated properties. LMS test reports include selected QC test parameters considered appropriate to specifications for customer use. Additionally, comprehensive controls are in place to assure product quality and consistency. Additionally, comprehensive controls are in place to assure product quality and consistency.

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

Disclaimer

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