Technical Data Sheet

LOCTITE® 425 HS

November 2023

Product description
LOCTITE® 425 HS provides the following product characteristics:

Technology	Cyanoacrylate
Chemical type	Alkoxyethyl cyanoacrylate
Appearance	Dark blue liquid
Components	One component – requires no mixing
Viscosity	Low
Cure	Humidity
Application	Low strength threadlocking / retaining
Specific benefits	• Fast fixture time • Low VOC

LOCTITE® 425 HS is designed as a fast curing, low strength adhesive for locking metal and plastics fasteners. The product is designed for pre- or post-application. LOCTITE® 425 HS was formulated to offer lower VOC than traditional cyanoacrylates. LOCTITE® 425 HS cures quickly on plated metal and plastics fasteners; fixturing is achieved in less than 2 minutes and full strength within 24 hours. This product is commonly used for tamperproofing the head of screws or potentiometers.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific gravity @ 23°C	1.1
Viscosity, Cone & Plate, 25°C, mPa·s (cP):	
Shear rate 1000 s^{-1}	140

TYPICAL CURING PERFORMANCE

Under normal conditions, the atmospheric moisture initiates the curing process. Although full functional strength is developed in a relatively short time, curing continues for at least 24 hours before full chemical/solvent resistance is developed.

Cure speed vs. Bond gap
The rate of cure will depend on the bondline gap. Thin bond lines result in high cure speeds, increasing the bond gap will decrease the rate of cure.

Cure speed vs. humidity
The rate of cure will depend on the ambient relative humidity. The best results are achieved when the relative humidity in the working environment is 50% at 23°C. Lower humidity leads to slower cure. Higher humidity accelerates it, but may impair the final strength of the bond.

Cure Speed vs. cctivator
Where cure speed is unacceptably long, or large gaps are present, applying activator to the surface will improve cure speed. However, this can reduce ultimate strength of the bond and therefore testing is recommended to confirm effect.

TYPICAL PERFORMANCE OF CURED MATERIAL

Cured for 24 hours @ 23°C / 50% RH, on untorqued zinc plated fasteners.

Torque strength

Fastener size	Breakaway		Prevail	
4-34	N·m	0.08	N·m	0.05
	(lb.in.)	(0.7)	(lb.in.)	(0.4)
6-28	N·m	0.6	N·m	0.4
	(lb.in.)	(5.3)	(lb.in.)	(3.5)
10-28	N·m	4.1	N·m	2.4
	(lb.in.)	(36.3)	(lb.in.)	(21.2)

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

1. Bond areas should be clean and free from grease. Clean all surfaces with a LOCTITE® cleaning solvent and allow to dry.
2. To improve bonding on low energy plastic surfaces, LOCTITE® Primer may be applied to the bond area. Avoid applying excess Primer. Allow the Primer to dry.
3. LOCTITE® Activator may be used if necessary. Apply it to one bond surface (do not apply activator to the primed surface where Primer is also used). Allow the Activator to dry.
4. Apply adhesive to one of the bond surfaces (do not apply the adhesive to the activated surface). Do not use items like tissue or a brush to spread the adhesive. Assemble the parts within a few seconds. The parts should be accurately located, as the short fixture time leaves little opportunity for adjustment.
5. LOCTITE® Activator can be used to cure fillets of product outside the bond area. Spray or drop the activator on theexcess product.
6. Bonds should be held fixed or clamped until adhesive has fixtured.
7. Product should be allowed to develop full strength before subjecting to any service loads (typically 24 to 72 hours after assembly, depending on bond gap, materials and ambient conditions).

Storage
Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.
Optimal storage: 2°C to 8°C. Storage below 2°C or greater than 8°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.

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

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Reference 1