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LOCTITE

Technical Data Sheet

LOCTITE® 220

October 2020

PRODUCT DESCRIPTION

LOCTITE® 220 provides the following product characteristics:

Technology	Acrylic
Chemical Type	Dimethacrylate ester
Appearance (uncured)	Blue liquid
Fluorescence	Positive under UV light
Components	One component - requires no mixing
Viscosity	Low
Cure	Anaerobic
Secondary Cure	Activator
Application	Threadlocking
Strength	Low

LOCTITE® 220 is designed for the locking and sealing of threaded fasteners which require normal disassembly with standard hand tools. The product cures when confined in the absence of air between close fitting metal surfaces and prevents loosening and leakage from shock and vibration. Because of its low viscosity and capillary action, the product wicks between engaged threads and eliminates the need to disassemble prior to application. LOCTITE® 220 can also fill porosity in welds, casting and powdered metal parts. LOCTITE® 220 is particularly suitable for applications such as adjustment of set screws, small diameter or long engagement length fasteners, where easy disassembly is required without shearing the screw.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C	1.08
Viscosity, Cannon Fenske, ISO 3104, mPa·s (cP)	20

TYPICAL CURING PERFORMANCE

Cure Speed vs. Temperature

The rate of cure will depend on the temperature. Full cure is attainable in 24 hours @ 23 °C, or 1 hour at 93 °C.

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

Cured for 24 hours @ 23°C

Breakaway Torque, ISO 10964, Unseated:		
3/8 x 16 steel nuts (grade 2) and bolts (grade 5)	N·m (lb.in.)	9.7 (86)
Prevail Torque, ISO 10964, Unseated:		
3/8 x 16 steel nuts (grade 2) and bolts (grade 5)	N·m (lb.in.)	19 (170)

Cured for 15 minutes @ 23°C

Breakaway Torque, ISO 10964, Unseated:		
3/8 x 16 steel nuts (grade 2) and bolts (grade 5)	N·m (lb.in.)	9.1 (80)
Prevail Torque, ISO 10964, Unseated:		
3/8 x 16 steel nuts (grade 2) and bolts (grade 5)	N·m (lb.in.)	15 (130)

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).

Where aqueous washing systems are used to clean the surfaces before bonding, it is important to check for compatibility of the washing solution with the adhesive. In some cases these aqueous washes can affect the cure and performance of the adhesive.

This product is not normally recommended for use on plastics (particularly thermoplastic materials where stress cracking of the plastic could result). Users are recommended to confirm compatibility of the product with such substrates.

Directions For Use:

For Pre-assembled

1. For best results, clean all surfaces (external and internal) with a LOCTITE® cleaning solvent and allow to dry.
2. If the cure speed is too slow, use appropriate activator. Allow the activator to dry when needed.
3. Shake the product thoroughly before use.
4. To prevent the product from clogging in the nozzle, do not allow the tip to touch metal surfaces during application.
5. **For Through Holes,** apply several drops of the product onto the bolt and the nut engaged area.
6. This product is not recommended for pre-assembled threads in a blind hole.

For Porosity Sealing

1. Clean area and apply localized heat to the area to approximately 120°C.
2. Allow to cool to approximately 85°C and apply the product.

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For Disassembly

1. Remove with standard hand tools.
2. Where hand tools do not work because of excessive engagement length, apply localized heat to nut or bolt to approximately 250 °C. Disassemble while hot.

Clean-up

1. Cured product can be removed with a combination of soaking in a LOCTITE® solvent and mechanical abrasion such as a wire brush.

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

Note:
The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.
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