Technical Data Sheet

LOCTITE® DRI 201 ECO™

Known as LOCTITE® Dri Loc 201™
August 2016

PRODUCT DESCRIPTION

LOCTITE® DRI 201 ECO™ provides the following product characteristics:

Technology	Acrylic
Chemical Type	Methacrylate ester
Components	Two-component
Appearance - Part A	Thick yellow solution[LMS]
Appearance - Part B	Mustard Yellow Solution[LMS]
Cure	Anaerobic
Application	Threadlocking, Sealing

LOCTITE® DRI 201 ECO™ is a high strength, preapplied threadlocker. As a pre-applied film, the product is dry-to-the-touch and remains an inert coating until assembly. During assembly microcapsules, which are contained within the coating, are crushed thereby releasing an active ingredient which initiates the curing process. The coating fills all the voids in the threads and cures to securely lock and seal the assembly. When cured, this product will also act as a thread sealant. Particularly suitable in situations where threaded parts are required to be ready for immediate use in an adhesive joint and a high volume production environment where it may not be possible to use a liquid product. Typical applications include locking carburetor screws, transmission nuts, head bolts, truck axle bolts and tower bolts and also for sealing transmission bolts and pipe plugs and fittings.

TYPICAL PROPERTIES OF UNCURED MATERIAL

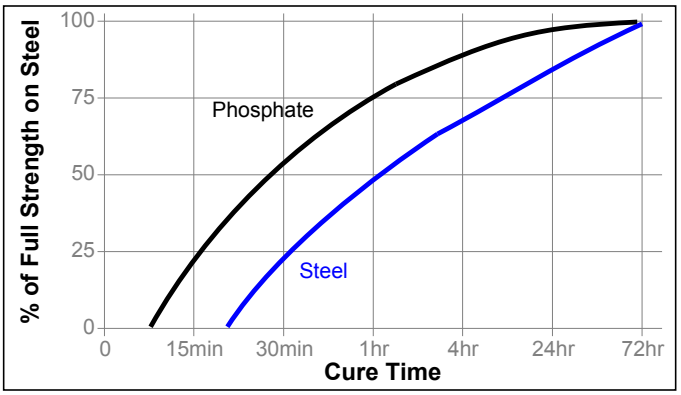
Viscosity, Brookfield - RVF, 25 °C, mPa·s (cP):	
Spindle 5, speed 2 rpm	75,000 to 100,000[LMS]
pH	4 to 5.5
On Part Life, years	4

Flash Point - See SDS

TYPICAL CURING PERFORMANCE

Cure Speed vs. Substrate

The graph below shows the breakaway strength developed with time on 3/8 x 16 phosphate and oil nuts & bolts compared to different materials and tested according to MIL-S-46163.



TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

On - Torque, ISO 10964:		
3/8 x 16 steel nuts (grade 2) and bolts (grade 5)	N·m (lb.in.)	≤2[LMS] (≤18[LMS])
After 24 hours @ 22 °C		
Breakaway Torque, ISO 10964:		
3/8 x 16 phosphate and oil grade 2 nuts and grade 5 bolts	N·m (lb.in.)	≥17[LMS] (≥150)
After 72 hours @ 22°C followed by 1 hour @ 149 °C		
Breakaway Torque, ISO 10964:		
3/8 x 16 phosphate and oil grade 2 nuts and grade 5 bolts	N·m (lb.in.)	≥19[LMS] (≥170)
Prevail Torque, ISO 10964:		
3/8 x 16 phosphate and oil grade 2 nuts and grade 5 bolts	N·m (lb.in.)	≥15[LMS] (≥135)
After 72 hours @ 22°C followed by 1 hour @ 204 °C, and tested at 204°C		
Breakaway Torque, ISO 10964:		
3/8 x 16 phosphate and oil grade 2 nuts and grade 5 bolts	N·m (lb.in.)	≥15[LMS] (≥135)
Prevail Torque, ISO 10964:		
3/8 x 16 phosphate and oil grade 2 nuts and grade 5 bolts	N·m (lb.in.)	≥9[LMS] (≥80)

After 72 hours @ 22 °C

Breakloose Torque, ISO 10964, Input Torque = 50 N·m:

M10 x 1.5 Steel with Anti-Rust grade 10.9 bolts and grade 8 steel zinc plated nuts	N·m (lb.in.)	53 (465)
M10 x 1.5 Steel Zinc plated grade 10.9 bolts and grade 10 steel zinc plated nuts	N·m (lb.in.)	48 (425)
M10 x 1.5 Steel Magni 554 plated grade 8.8 bolts and grade 8 steel zinc plated nuts	N·m (lb.in.)	52 (460)

Breakaway Torque, ISO 10964:

3/8 x 16 phosphate and oil grade 2 nuts and grade 5 bolts	N·m (lb.in.)	≥25[LMS] (≥220)
M10 x 1.5 Steel with Anti-Rust grade 10.9 bolts and grade 8 steel zinc plated nuts	N·m (lb.in.)	11 (95)
M10 x 1.5 Steel Zinc plated grade 10.9 bolts and grade 10 steel zinc plated nuts	N·m (lb.in.)	11 (98)
M10 x 1.5 Steel Magni 554 plated grade 8.8 bolts and grade 8 steel zinc plated nuts	N·m (lb.in.)	14 (120)

Prevail Torque, ISO 10964:

3/8 x 16 phosphate and oil grade 2 nuts and grade 5 bolts	N·m (lb.in.)	≥11[LMS] (≥95)
M10 x 1.5 Steel with Anti-Rust grade 10.9 bolts and grade 8 steel zinc plated nuts	N·m (lb.in.)	7.2 (64)
M10 x 1.5 Steel Zinc plated grade 10.9 bolts and grade 10 steel zinc plated nuts	N·m (lb.in.)	5.9 (52)
M10 x 1.5 Steel Magni 554 plated grade 8.8 bolts and grade 8 steel zinc plated nuts	N·m (lb.in.)	8.1 (72)

Total Coefficient of Friction (DIN 946):
These values are only valid for tested combinations of fasteners. Friction coefficients are based on :

- Surface finish
- Surface roughness
- Fitting quality of bearing surface
- Lubrication
- Assembly conditions (e.g. screw-in speed)
- Design (e.g. dimensions, geometry of threads)

M10 x 1.5 Steel with Anti-Rust grade 10.9 bolts and grade 8 steel zinc plated nuts	≤0.2
M10 x 1.5 Steel Zinc plated grade 10.9 bolts and grade 10 steel zinc plated nuts	≤0.17
M10 x 1.5 Steel Magni 554 plated grade 8.8 bolts and grade 8 steel zinc plated nuts	≤0.15

TYPICAL ENVIRONMENTAL RESISTANCE

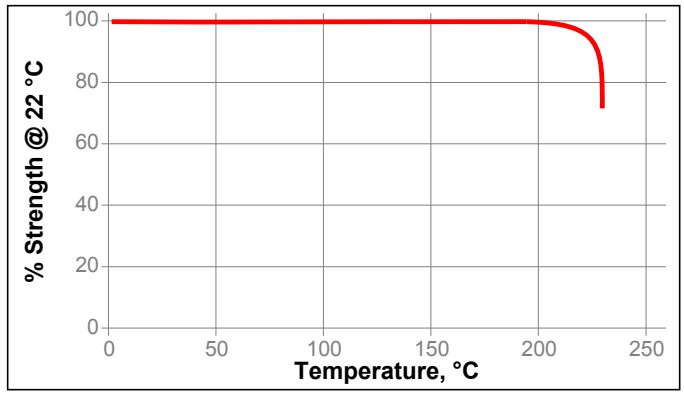
Cured for 72 hours @ 22 °C

Breakaway Torque, ISO 10964:

3/8 x 16 phosphate and oil nuts and bolts

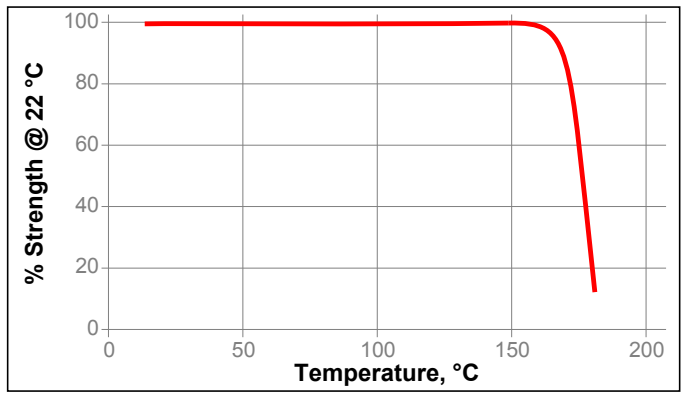
Hot Strength

Tested at temperature



Heat Aging

Heat aged for 2000 hours, tested at temperature



Chemical/Solvent Resistance

Aged under conditions indicated and tested @ 22 °C

		% of initial strength		
Environment	**°C**	**100 h**	**500 h**	**1000 h**
Motor oil	125	117	96	86
Motor oil	87	125	112	105
Unleaded gasoline	22	102	113	119
Brake fluid	22	101	105	114
Ethanol	22	102	112	112
1,1,1 Trichloroethane	22	104	116	112
Water/glycol 50/50	87	119	112	108

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.

Surface Compatibility: Loctite adhesives may stain or discolor some metals. However, the effect on performance of the adhesive has been shown to be inconsequential. **Loctite DRI series theadlockers are not recommended for use on copper or brass.**

Directions for use:

LOCTITE® DRI 201 ECO™ is applied to threaded parts by authorized process centers who have automatic fastener cleaning, feeding, coating, rust proofing and drying equipment. Quantities can be handled promptly with minimum turnaround time. Sample fittings should be sent to the nearest authorized process center where they will coat your parts and return them to you for evaluation. SAMPLE TESTS ARE RECOMMENDED TO OBTAIN DESIRED RESULTS ON YOUR PARTS. Contact the nearest Loctite Sales Representative for the authorized process center nearest to you.

Loctite Material Specification[LMS]

LMS dated May 8, 1996. 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. Special customer specification requirements may be coordinated through Henkel Quality.

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 Technical Service Center or Customer Service 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

Reference 0.0