

LOCTITE[®] SF 7701[™]

Known as LOCTITE[®] 7701[™]
January 2015

PRODUCT DESCRIPTION

LOCTITE[®] SF 7701[™] provides the following product characteristics:

| | |
|------------------------------------|--|
| Technology | Primer - Cyanoacrylate |
| Chemical Type | Aliphatic amine |
| Solvent | n-Heptane |
| Active Ingredient Concentration, % | 0.08 to 0.12 ^{LMS} |
| Appearance | Clear colorless liquid ^{LMS} |
| Fluorescence | Positive under UV light ^{LMS} |
| Viscosity | Very low |
| Cure | Not applicable |
| Application | CA surface primer |

LOCTITE[®] SF 7701[™] is used to make polyolefin and other low energy surfaces suitable for bonding with Loctite cyanoacrylate adhesives. On such treated surfaces the cured performance of LOCTITE[®] cyanoacrylate adhesives is generally similar to that described in the TDS for the relevant adhesive. It is only recommended for difficult to bond substrates which include polyethylene, polypropylene, polytetrafluoroethylene (PTFE) and thermoplastic rubber materials. It is not recommended in assemblies where high peel strength is required. LOCTITE[®] SF 7701[™] is suitable for use in the assembly of disposable medical devices.

ISO-10993

An ISO 10993 Test Protocol is an integral part of the Quality Program for LOCTITE[®] SF 7701[™]. LOCTITE[®] SF 7701[™] has been qualified, in conjunction with LOCTITE[®] 4014, to Loctite's ISO 10993 Protocol as a means to assist in the selection of products for use in the medical device industry. Certificates of Compliance are available at www.loctite.com or through the Henkel Loctite Quality Department.

TYPICAL PROPERTIES

| | |
|-------------------------------|------|
| Specific Gravity @ 25 °C | 0.68 |
| Viscosity @ 20 °C, mPa·s (cP) | 1.25 |
| Drying Time @ 20 °C, seconds | ≤30 |
| On Part Life, hours | ≤8 |
| Flash Point - See SDS | |

TYPICAL PERFORMANCE

Fixture time and cure speed achieved as a result of using LOCTITE[®] SF 7701[™] depend on the adhesive used and the substrate bonded.

Effect on Cure Speed of Cyanoacrylate Adhesives

LOCTITE[®] SF 7701[™] also behaves as an activator and accelerates the cure speed of cyanoacrylate adhesives. Fixturing time on most primed substrates is less than 5 seconds but 24 hours at room temperature (22 °C) should be allowed for adhesive to develop maximum bond strength.

Effect on Cured Properties of Cyanoacrylate Adhesives

Products 406, 496 and 460 are based on ethyl, methyl and β-Methoxyethyl esters respectively. Other LOCTITE[®] liquid products based on these esters will behave in a similar fashion to these examples. LOCTITE[®] SF 7701[™] is not recommended for use with gel products.

TYPICAL PERFORMANCE OF CURED MATERIAL

Performance Data

Substrates treated with LOCTITE[®] SF 7701[™]

After 24 hours @ 22 °C / 55% RH:

Lap Shear Strength, ISO 4587:

| | | |
|--|----------------------------|---------------------------|
| Polypropylene and LOCTITE [®] 406 [™] | N/mm ² (psi) | 3 to 10 (440 to 1,450) |
| Polypropylene and LOCTITE [®] 496 [™] | N/mm ² (psi) | 2 to 7 (290 to 1,015) |
| Polypropylene and LOCTITE [®] 460 [™] | N/mm ² (psi) | 1 to 4 (145 to 580) |
| Thermoplastic Rubber and LOCTITE [®] 406 [™] | N/mm ² (psi) | 2 to 6 (290 to 870) |
| Polytetrafluoroethylene (PTFE) and LOCTITE [®] 406 [™] | N/mm ² (psi) | 1 to 6 (145 to 870) |
| HDPE treated with LOCTITE [®] SF 7701 [™] to: | | |
| Mild steel (grit blasted) without primer and LOCTITE [®] 406 [™] | N/mm ² (psi) | 4 to 10 (580 to 1,450) |
| Polypropylene treated with primer and LOCTITE [®] 496 [™] | N/mm ² (psi) | 5 to 15 (725 to 2,175) |

TYPICAL ENVIRONMENTAL RESISTANCE

Environmental Resistance of Cyanoacrylate bonds on substrates treated with LOCTITE® SF 7701™

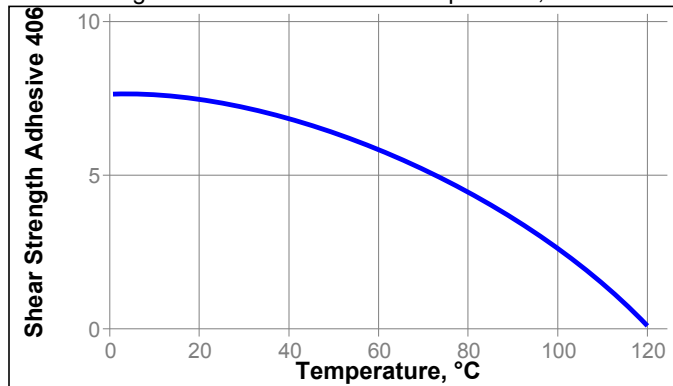
Cured for 24 hours

Lap Shear Strength, ISO 4587

Hot Strength

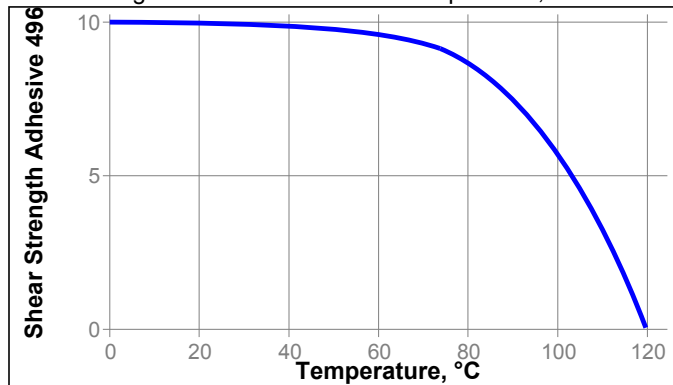
Polypropylene to Polypropylene

Shear strength measured at elevated temperature, N/mm²

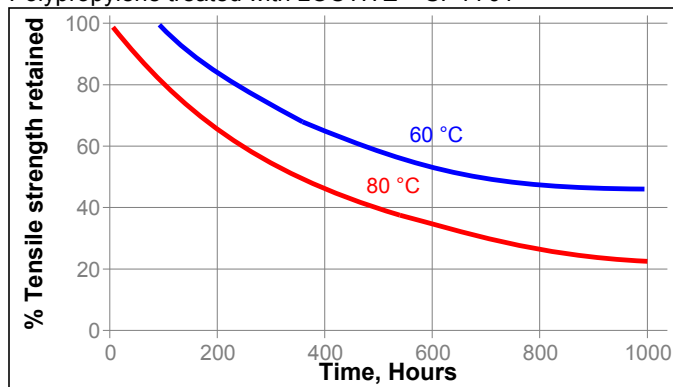


Grit Blasted Mild Steel to Polypropylene

Shear strength measured at elevated temperature, N/mm²

**Heat Aging**

Polypropylene treated with LOCTITE® SF 7701™

**Chemical/Solvent Resistance**

On Isopropyl Alcohol wiped Polypropylene, treated with LOCTITE® SF 7701™. (For effect of other solvents see TDS for relevant adhesive)

| Environment | °C | % of initial strength | | |
|-------------|----|-----------------------|-------|--------|
| | | 100 h | 500 h | 1000 h |
| 95% RH | 40 | 100 | 100 | 100 |

GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected with a sealant for chlorine or other strong oxidizing materials.

Directions for use:

Primer may be applied by spraying, brushing or dipping at ambient temperature. Excess primer should be avoided. Presence of primer may be detected by means of a UV inspection lamp (365 nm). If polyolefin and more active or easier to bond materials are involved, apply the primer to the polyolefin only.

Handling precautions

Primer must be handled in a manner applicable to highly flammable materials and in compliance with relevant local regulations. The solvent can affect certain plastics or coatings. It is recommended to check all surfaces for compatibility before use.

Loctite Material Specification^{LMS}

LMS dated May 23, 2005. 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

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$
 $\text{kV/mm} \times 25.4 = \text{V/mil}$
 $\text{mm} / 25.4 = \text{inches}$
 $\mu\text{m} / 25.4 = \text{mil}$
 $\text{N} \times 0.225 = \text{lb}$
 $\text{N/mm} \times 5.71 = \text{lb/in}$
 $\text{N/mm}^2 \times 145 = \text{psi}$
 $\text{MPa} \times 145 = \text{psi}$
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$
 $\text{mPa}\cdot\text{s} = \text{cP}$

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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