PRODUCT DESCRIPTION

44-NC™ provides the following product characteristics:

<table>
<thead>
<tr>
<th>Technology</th>
<th>Mold Release</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear to slight blue tint</td>
</tr>
<tr>
<td>Chemical Type</td>
<td>Solvent Based Polymer</td>
</tr>
<tr>
<td>Odor</td>
<td>Solvent</td>
</tr>
<tr>
<td>Cure</td>
<td>Room temperature cure</td>
</tr>
<tr>
<td>Cured Thermal Stability</td>
<td>≤400 °C</td>
</tr>
<tr>
<td>Application</td>
<td>Release Coatings</td>
</tr>
<tr>
<td>Application Temperature</td>
<td>13 to 60 °C</td>
</tr>
<tr>
<td>Specific Benefit</td>
<td>● Better mold utilization</td>
</tr>
<tr>
<td></td>
<td>● Non-contaminating transfer</td>
</tr>
<tr>
<td></td>
<td>● No mold build-up</td>
</tr>
<tr>
<td></td>
<td>● lower mold maintenance costs</td>
</tr>
</tbody>
</table>

44-NC™ is a release agent where a non-transferring release is necessary. This semi-permanent, non-migratory release system chemically bonds to the mold surface to form a micro thin film which is stable at temperatures exceeding most molding processes. 44-NC™ can be used for the release of epoxies, polyester resins, thermoplastics, adhesives, and rotationally molded plastics.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C: 0.76 to 0.782
Release Agent Transfer ≥4
Flash Point - See MSDS

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.

Sealing New/Repaired Molds:

Occasionally, green or freshly repaired molds are rushed into service prior to complete cure causing an increased amount of free styrene on the mold surface. Fresh or "production line" repairs, new fiberglass and epoxy molds should be cured per manufacturer's instructions, usually a minimum of 2 - 3 weeks at 22°C before starting full-scale production. Fully cured previously unused molds should be sealed before use. This can be accomplished by applying one to two coats of a Frekote® mold sealer, following the directions for use instructions Allow full cure of Frekote® FMS-100™ before you apply the first coat of 44-NC™ as outlined in the directions of use.

Directions for use:

1. 44-NC™ can be applied to mold surfaces at room temperature up to 60°C by spraying, brushing or wiping with a clean lint-free, cloth. When spraying ensure a dry air source is used or use an airless spray system. Always use in a well ventilated area.
2. Wipe or spray on a smooth, thin, continuous, wet film. Avoid wiping or spraying over the same area that was just coated until the solvent has evaporated. If spraying, hold nozzle 20 to 30cm from mold surface. It is suggested that small areas be coated, working progressively from one side of the mold to the other.
3. Initially, apply 4 to 6 base coats allowing 10 to 15 minutes between coats for solvent evaporation.
4. Allow the final coat to cure for 3 hours at 22°C and can be shortened by baking the mold for only 15 minutes at 100 to 150°C.
5. Maximum releases will be obtained as the mold surface becomes conditioned to 44-NC™. Performance can be enhanced by re-coating once, after the first few initial pulls.
6. When any release difficulty is experienced, the area in question can be "touched-up" by re-coating the entire mold surface or just those areas where release difficulty is occurring.
7. NOTE: 44-NC™ is moisture sensitive, keep container tightly closed when not in use. The product should always be used in a well ventilated area.
8. Precaution: Users of closed mold systems(rotomolding) must be certain that solvent evaporation is complete and that all solvent vapors have been ventilated from the mold cavity prior to closing the mold. An oil-free compressed air source can be used to assist in evaporation of solvents and ventilation of the mold cavity.

Mold Preparation

Cleaning:
Mold surfaces must be thoroughly cleaned and dried. All traces of prior release must be removed. This may be accomplished by using Frekote® PMC or other suitable cleaner. Frekote® 915WB™ or light abrasives can be used for heavy build-up.
Mold Touch up

Touch up coats should only be applied to areas where poor release is noticed and should be applied using the same method as base coats. This will reduce the possibility of release agent or polymer build-up. The frequency of touch ups will depend on the polymer type, mold configuration, and abrasion parameters.

Loctite Material Specification

LMS dated February 11, 2003. 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

The product is classified as flammable and must be stored in an appropriate manner in compliance with relevant regulations. Do not store near oxidizing agents or combustible materials. Store product in the unopened container in a dry location. Storage information may also be indicated on the product container labelling.

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 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

\[(°C \times 1.8) + 32 = °F\]
\[kV/mm \times 25.4 = V/mil\]
\[mm / 25.4 = \text{inches}\]
\[\mu m / 25.4 = \text{mil}\]
\[N \times 0.225 = \text{lb}\]
\[N/mm \times 5.71 = \text{lb/in}\]
\[N/mm^2 \times 145 = \text{psi}\]
\[MPa \times 145 = \text{psi}\]
\[N\cdot m \times 8.85 = \text{lb\cdot in}\]
\[N\cdot m \times 0.738 = \text{lb\cdot ft}\]
\[N\cdot mm \times 0.142 = \text{oz\cdot in}\]
\[mPa\cdot s = \text{cP}\]

Note

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits. The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

Trademark usage

Except as otherwise noted, all trademarks in this document are trademarks of Henkel Corporation in the U.S. and elsewhere. ® denotes a trademark registered in the U.S. Patent and Trademark Office.

Reference 0.0
**PRODUCT DESCRIPTION**

**LOCTITE® 55™** provides the following product characteristics:

<table>
<thead>
<tr>
<th>Technology</th>
<th>Coated multifilament thread</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Type</td>
<td>Polyamide thread with inert proprietary paste</td>
</tr>
<tr>
<td>Appearance</td>
<td>White colored, coated cord</td>
</tr>
<tr>
<td>Cure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Application</td>
<td>Thread sealing</td>
</tr>
</tbody>
</table>

**LOCTITE® 55™** is a general purpose, threaded pipe and fitting sealant which is wound from the dispensing package onto the threads of the pipe. It is supplied in containers, which serve for both storage and dispensing purposes. Recommended for sealing metal and plastic tapered pipe threads and fittings up to 4” NPT (National Pipe Thread) for use in industrial applications in aqueous and non-aqueous fluids. Particularly suitable in threaded assembly applications that require immediate use and may undergo small readjustments before use. This product is typically used in applications up to 149 °C.

**NSF International**

Certified to ANSI/NSF Standard 61 for use in commercial and residential potable water systems not exceeding 82 °C. **Note:** This is a regional approval. Please contact your local Technical Service Center for more information and clarification.

**EN 751-2**

Sealing materials for metallic threaded joints in contact with 1st, 2nd, and 3rd family gases and hot water; Part 2: Non-hardening jointing compounds. **LOCTITE® 55™** has been tested and conforms to EN 751-2 for a class ARp compound and carries the DVGW approval.

**WRC and BGA KTW approval**

Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water. **LOCTITE® 55™** has been tested and has potable water approval to BS 6920 and also meets the specifications of the WRC and BGA KTW for both cold and hot potable water.

**TYPICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific Gravity @ 25 °C</td>
<td>1.25</td>
</tr>
<tr>
<td>Flash Point - See MSDS</td>
<td></td>
</tr>
<tr>
<td>Coating Weight, g/m</td>
<td></td>
</tr>
<tr>
<td>12 meter spool</td>
<td>7.0 to 10.4 LMS</td>
</tr>
<tr>
<td>50 meter spool</td>
<td>27.3 to 39.6 LMS</td>
</tr>
<tr>
<td>100 meter spool</td>
<td>54.0 to 80.7 LMS</td>
</tr>
<tr>
<td>150 meter spool</td>
<td>81.0 to 118.4 LMS</td>
</tr>
<tr>
<td>Spool Weight, g:</td>
<td></td>
</tr>
<tr>
<td>12 meter spool</td>
<td>12.5 to 14.0 LMS</td>
</tr>
<tr>
<td>50 meter spool</td>
<td>50.5 to 53.5 LMS</td>
</tr>
<tr>
<td>100 meter spool</td>
<td>101.0 to 109.0 LMS</td>
</tr>
<tr>
<td>150 meter spool</td>
<td>151.0 to 159.0 LMS</td>
</tr>
<tr>
<td>Spool Length, m:</td>
<td></td>
</tr>
<tr>
<td>12 meter spool</td>
<td>12.5 to 14.0 LMS</td>
</tr>
<tr>
<td>50 meter spool</td>
<td>50.5 to 53.5 LMS</td>
</tr>
<tr>
<td>100 meter spool</td>
<td>101.0 to 109.0 LMS</td>
</tr>
<tr>
<td>150 meter spool</td>
<td>151.0 to 159.0 LMS</td>
</tr>
<tr>
<td>Lubricity, ASTM D5648, K value:</td>
<td></td>
</tr>
<tr>
<td>3/8 x 16 fastener, using <strong>LOCTITE® 55™</strong></td>
<td>0.15</td>
</tr>
<tr>
<td>3/8 x 16 fastener (degreased)</td>
<td>0.2</td>
</tr>
<tr>
<td>3/8 x 16 phosphate and oil nuts and bolts</td>
<td>0.16</td>
</tr>
</tbody>
</table>

(In critical applications, it is necessary to determine the K values independently. Henkel Corporation makes no warranty of specific performance on any individual fastener).

**TYPICAL PERFORMANCE OF APPLIED MATERIAL**

Approval tests according to EN 751-2 for class ARp compound:

- Soundness Test, section 7.2.1.2 No leaks
- Soundness Test after 45° joint adjustment, section 7.2.1.3 No leaks
- Resistance to gas condensates, section 7.2.1.4 No leaks
- Hot water resistance test, section 7.2.1.5 No leaks
- Temperature cycling test, section 7.2.1.6 No leaks
- Vibration test, section 7.2.1.7 No leaks
- Compatibility with foam forming leak tester, section 7.2.2 Pass
- Test of hardening and dismantling, section 7.2.3 Pass

**Pressure Resistance**

**LOCTITE® 55™** was successfully tested for pressure resistance and sealability to 69 MPa. 3/8 NPT steel pipe tees and plugs were assembled and pre-torqued to 27 N·m prior to testing at 69 MPa hydraulic pressure @ 23 °C according to ASTM D 1599.

**TYPICAL ENVIRONMENTAL RESISTANCE**

**LOCTITE® 55™** has resistance to most common industrial fluids and gasses.

**Steam Compatibility**

**LOCTITE® 55™** was successfully tested for steam compatibility to 0.17 MPa. 1.5 ” NPT were assembled and tested at 0.17 MPa pressure @ 130 °C for 1,000 hours.
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 Material Safety Data Sheet (MSDS).

Directions for use:
1. Clean parts with a wire brush prior to application of product.
2. Hold the end of the Pipe Sealing Cord against the male nipple with one finger approximately two threads away from the end.
3. Wind the fiber onto the pipe threads in the same direction of the thread helix starting from the end of the pipe. For optimum performance, the grooves of the threads should be filled without completely masking the pitches of the thread.
4. CAUTION: Do not over-apply the Pipe Sealing Cord. Excessive material tends to be pushed off as fittings are assembled, and it also becomes mechanically more difficult to complete the engagement.
5. Cut the required length off with the integrated cutting tool and smooth the loose end onto the pitches of the pipe thread.
6. LOCTITE® 55™ can be adjusted up to 90° after tightening.

Usage/Application Information
The following is a guideline for how much LOCTITE® 55™ to use per pipe diameter.

<table>
<thead>
<tr>
<th>Pipe Diameter</th>
<th>Number of turns (wraps)</th>
<th>Metal</th>
<th>Plastic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1½”</td>
<td>6 to 8</td>
<td>12 to 15</td>
<td></td>
</tr>
<tr>
<td>2”</td>
<td>7 to 9</td>
<td>15 to 25</td>
<td></td>
</tr>
<tr>
<td>1”</td>
<td>8 to 12</td>
<td>20 to 30</td>
<td></td>
</tr>
<tr>
<td>1½”</td>
<td>10 to 15</td>
<td>25 to 35</td>
<td></td>
</tr>
<tr>
<td>2”</td>
<td>15 to 25</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>2½”</td>
<td>20 to 30</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>3”</td>
<td>25 to 35</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>3½”</td>
<td>30 to 40</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>4”</td>
<td>35 to 45</td>
<td>--------</td>
<td></td>
</tr>
</tbody>
</table>

LOCTITE® 55™ provides sealing against cold water and compressed air on plastic pipe threads when applied properly in a sufficient amount.

Loctite Material Specification®
LMS dated January 26, 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 ºC to 21 ºC. Storage below 8 ºC or greater than 28 ºC 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 = ºF
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 x 8.851 = lb-in
N x 0.738 = lb-ft
N-mm x 0.142 = oz-in
mPa·s = cP

Note
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Underwriters Laboratories, inc.® is a trademark of Underwriters Laboratories, inc.

Reference 1.7
PRODUCT DESCRIPTION

700-NC™ provides the following product characteristics:

<table>
<thead>
<tr>
<th>Technology</th>
<th>Mold Release</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear, colorless</td>
</tr>
<tr>
<td>Chemical Type</td>
<td>Solvent Based Polymer</td>
</tr>
<tr>
<td>Odor</td>
<td>Solvent</td>
</tr>
<tr>
<td>Cure</td>
<td>Room temperature cure</td>
</tr>
<tr>
<td>Cured Thermal Stability</td>
<td>≤400 °C</td>
</tr>
</tbody>
</table>

Application

<table>
<thead>
<tr>
<th>Application</th>
<th>Release Coatings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Temperature</td>
<td>13 to 135 °C</td>
</tr>
</tbody>
</table>

Specific Benefit

- No chlorinated solvents
- High gloss finish
- High slip
- No contaminating transfer
- No mold build-up

700-NC™ offers excellent release properties for the most demanding applications and is a great all-purpose release agent. 700-NC™ releases epoxies, polyester resins, thermoplastics, rubber compounds and most other molded polymers.

TYPICAL PROPERTIES OF UNCURED MATERIAL

<table>
<thead>
<tr>
<th>Specific Gravity @ 25 °C</th>
<th>0.755 to 0.764 LMS</th>
</tr>
</thead>
</table>

Flash Point - See MSDS

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 Material Safety Data Sheet (MSDS).

Mold Preparation

Cleaning:
Mold surfaces must be thoroughly cleaned and dried. All traces of prior release must be removed. This may be accomplished by using Frekote® PMC or other suitable cleaner. Frekote® 915WB™ or light abrasives can be used for heavy build-up.

Sealing New/Repaired Molds:
Occasionally, green or freshly repaired molds are rushed into service prior to complete cure causing an increased amount of free styrene on the mold surface. Fresh or "production line" repairs, new fiberglass and epoxy molds should be cured per manufacturer's instructions, usually a minimum of 2-3 weeks at 22°C before starting full-scale production. Fully cured previously unused molds should be sealed before use. This can be accomplished by applying one to two coats of an appropriate Frekote® mold sealer, following the directions for use instructions. Allow full cure of the appropriate Frekote® mold sealer before you apply the first coat of 700-NC™ as outlined in the directions of use.

Directions for use:

1. 700-NC™ can be applied to mold surfaces at room temperature up to 135°C by spraying, brushing or wiping with a clean lint-free cloth. When spraying ensure a dry air source is used or use an airless spray system. Always use in a well ventilated area.

2. Wipe or spray on a smooth, thin, continuous, wet film. Avoid wiping or spraying over the same area that was just coated until the solvent has evaporated. If spraying, hold nozzle 20 to 30cm from mold surface. It is suggested that small areas be coated, working progressively from one side of the mold to the other.

3. Initially, apply 2 to 3 base coats allowing 5 to 10 minutes between coats for solvent evaporation.

4. Allow the final coat to cure for 15 to 20 minutes at 22°C.

5. Maximum releases will be obtained as the mold surface becomes conditioned to 700-NC™. Performance can be enhanced by re-coating once, after the first few initial pulls.

6. When any release difficulty is experienced, the area in question can be "touched-up" by re-coating the entire mold surface or just those areas where release difficulty is occurring.

7. NOTE: 700-NC™ is moisture sensitive, keep container tightly closed when not in use. The product should always be used in a well ventilated area.

8. Precaution: Users of closed mold systems(rotomolding) must be certain that solvent evaporation is complete and that all solvent vapors have been ventilated from the mold cavity prior to closing the mold. An oil-free compressed air source can be used to assist in evaporation of solvents and ventilation of the mold cavity.

Mold Touch up

Touch up coats should only be applied to areas where poor release is noticed and should be applied using the same method as base coats. This will reduce the possibility of release agent or polymer build-up. The frequency of touch ups will depend on the polymer type, mold configuration, and abrasion parameters.

Loctite Material Specification

LMS dated May 10, 2006. 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
The product is classified as flammable and must be stored in an appropriate manner in compliance with relevant regulations. Do not store near oxidizing agents or combustible materials. Store product in the unopened container in a dry location. Storage information may also be indicated on the product container labelling.

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 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 ÷ 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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Trademark usage
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Reference 0.0
LOCTITE® 770™ provides the following product characteristics:

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology</td>
<td>Primer - Cyanoacrylate</td>
</tr>
<tr>
<td>Chemical Type</td>
<td>Aliphatic amine</td>
</tr>
<tr>
<td>Solvent</td>
<td>n-Heptane</td>
</tr>
<tr>
<td>Active Ingredient</td>
<td>Concentration, %</td>
</tr>
<tr>
<td></td>
<td>0.07 to 0.13</td>
</tr>
<tr>
<td>Appearance</td>
<td>Transparent to slightly hazy liquid</td>
</tr>
<tr>
<td>Fluorescence</td>
<td>Positive under UV light</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Very low</td>
</tr>
<tr>
<td>Cure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Application</td>
<td>CA surface primer</td>
</tr>
</tbody>
</table>

LOCTITE® 770™ 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. LOCTITE® 770™ Polyolefin Primer is not recommended in assemblies where high peel strength is required.

**TYPICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific Gravity @ 25 °C</td>
<td>0.68</td>
</tr>
<tr>
<td>Viscosity @ 20 °C, mPa·s (cP)</td>
<td>1.25</td>
</tr>
<tr>
<td>Drying Time @ 20 °C, seconds</td>
<td>≤30</td>
</tr>
<tr>
<td>On Part Life, hours</td>
<td>≤8</td>
</tr>
<tr>
<td>Flash Point - See MSDS</td>
<td></td>
</tr>
</tbody>
</table>

**TYPICAL PERFORMANCE**

Fixture time and cure speed achieved as a result of using LOCTITE® 770™ depend on the adhesive used and the substrate bonded.

**Effect on Cure Speed of Cyanoacrylate Adhesives**

LOCTITE® 770™ 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.

**TYPICAL ENVIRONMENTAL RESISTANCE**

Environmental Resistance of Cyanoacrylate bonds on substrates treated with LOCTITE® 770™ Cured for 24 hours:

- Lap Shear Strength, ISO 4587:
  - Polypropylene and LOCTITE® 406™
    - N/mm²: 3 to 10
    - (psi): (440 to 1,450)
  - Polypropylene and LOCTITE® 496™
    - N/mm²: 2 to 7
    - (psi): (290 to 1,015)
  - Polyethylene and LOCTITE® 460™
    - N/mm²: 1 to 4
    - (psi): (145 to 580)
  - Thermoplastic Rubber and LOCTITE® 406™
    - N/mm²: 2 to 6
    - (psi): (290 to 870)
  - Polytetrafluoroethylene (PTFE) and LOCTITE® 406™
    - N/mm²: 1 to 6
    - (psi): (145 to 870)

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.

**TYPICAL PERFORMANCE OF CURED MATERIAL**

*After 24 hours @ 22 °C / 55% RH:*

<table>
<thead>
<tr>
<th>Laminate</th>
<th>Lap Shear Strength, ISO 4587:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polypropylene and LOCTITE® 406™</td>
<td>N/mm²: 3 to 10</td>
</tr>
<tr>
<td>Polypropylene and LOCTITE® 496™</td>
<td>N/mm²: 2 to 7</td>
</tr>
<tr>
<td>Polyethylene and LOCTITE® 460™</td>
<td>N/mm²: 1 to 4</td>
</tr>
<tr>
<td>Thermoplastic Rubber and LOCTITE® 406™</td>
<td>N/mm²: 2 to 6</td>
</tr>
<tr>
<td>Polytetrafluoroethylene (PTFE) and LOCTITE® 406™</td>
<td>N/mm²: 1 to 6</td>
</tr>
</tbody>
</table>

*HDPE treated with LOCTITE® 770™ to:*

<table>
<thead>
<tr>
<th>Laminate</th>
<th>Lap Shear Strength, ISO 4587:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild steel (grit blasted) without primer and LOCTITE® 406™</td>
<td>N/mm²: 4 to 10</td>
</tr>
<tr>
<td>Polymethyl treated with primer and LOCTITE® 496™</td>
<td>N/mm²: 5 to 15</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>Temperature, °C</th>
<th>Shear Strength Adhesive 496</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
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<tr>
<td>40</td>
<td></td>
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<tr>
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<td></td>
</tr>
<tr>
<td>80</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td></td>
</tr>
<tr>
<td>120</td>
<td></td>
</tr>
</tbody>
</table>

Heat Aging
Polypropylene treated with LOCTITE® 770™

<table>
<thead>
<tr>
<th>Time, hours</th>
<th>% Tensile strength retained</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>20</td>
<td>90</td>
</tr>
<tr>
<td>40</td>
<td>80</td>
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<tr>
<td>60</td>
<td>70</td>
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<tr>
<td>80</td>
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<td>100</td>
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<td>400</td>
<td>30</td>
</tr>
<tr>
<td>600</td>
<td>20</td>
</tr>
<tr>
<td>800</td>
<td>10</td>
</tr>
<tr>
<td>1000</td>
<td>0</td>
</tr>
</tbody>
</table>

Chemical/Solvent Resistance
On Isopropyl Alcohol wiped Polypropylene, treated with LOCTITE® 770™. (For effect of other solvents see TDS for relevant adhesive)

<table>
<thead>
<tr>
<th>Environment</th>
<th>% of initial strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>95% RH</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>100</td>
</tr>
<tr>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>1000</td>
<td>100</td>
</tr>
</tbody>
</table>

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 November 6, 2000. 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/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
Note
The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits. The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

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Reference 1.3
PRODUCT DESCRIPTION
B-15™ provides the following product characteristics:

<table>
<thead>
<tr>
<th>Technology</th>
<th>Mold Sealer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear, colorless</td>
</tr>
<tr>
<td>Chemical Type</td>
<td>Solvent Based Polymer</td>
</tr>
<tr>
<td>Odor</td>
<td>Solvent</td>
</tr>
<tr>
<td>Cure</td>
<td>Room temperature cure</td>
</tr>
<tr>
<td>Cured Thermal Stability</td>
<td>≤400 °C</td>
</tr>
<tr>
<td>Application</td>
<td>Mold Sealer</td>
</tr>
<tr>
<td>Application Temperature</td>
<td>20 to 60 °C</td>
</tr>
</tbody>
</table>
| Specific Benefit | ● No contaminating transfer  
● High thermal stability  
● Seals mold porosity, scratches or imperfections |

B-15™ is formulated specifically as a sealer for composite and metal molds with micro porosity problems, small surface scratches or imperfections. Used in conjunction with other Frekote® products, B-15™ provides an excellent base coat enhancing the release advantages offered.

TYPICAL PROPERTIES OF UNCURED MATERIAL

- Specific Gravity @ 25 °C: 0.745 to 0.775
- Flash Point - See MSDS
- Release Agent Transfer: ≥4

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 Material Safety Data Sheet (MSDS).

Mold Preparation

Cleaning:

Mold surfaces must be thoroughly cleaned and dried. All traces of prior release must be removed. This may be accomplished by using Frekote® PMC or other suitable cleaner. Frekote® 915WB™ or light abrasives can be used for heavy build-up.

Directions for use:

1. B-15™ can be applied to mold surfaces by spraying, brushing, dipping or wiping with a clean, lint free, cotton wiping cloth. When spraying, ensure a dry air source is used or use an airless spray system making sure the nozzles is 20 to 25 cm from the mold surface.
2. Brushing and dipping are effective methods of application, but care should be taken to avoid excessive pooling and to ensure that the part is well drained. Wiping on is the best method of application.
3. Only a thin wet film is required. It is suggested that small areas be coated, working progressively from one mold to the other.
4. Apply a minimum of two coats, allowing 30 minutes between coats.
5. The final coat will cure within 24 hours at 23°C or the cure process can be shortened by baking the mold for 60 minutes at 95°C after ensuring that the mold is dry and all solvents have flashed off.
6. The mold is now ready to be coated with Frekote mold release products. Please refer to individual product data sheets for the proper application of the release agent.

Mold Touch up

Touch up coats with a sealer should only be applied to areas where the mold was repaired. On repaired areas apply the same number of sealer and release agent coats like for the base coating onto new or refurbished molds.

Locitite Material Specification

LMS dated December 18, 2002. 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

The product is classified as flammable and must be stored in an appropriate manner in compliance with relevant regulations. Do not store near oxidizing agents or combustible materials. Store product in the unopened container in a dry location. Storage information may also be indicated on the product container labelling.

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 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

Note
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Reference 0.0
PRODUCT DESCRIPTION
FMS™ provides the following product characteristics:

<table>
<thead>
<tr>
<th>Technology</th>
<th>Mold Release</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear, colorless</td>
</tr>
<tr>
<td>Chemical Type</td>
<td>Solvent Based Polymer</td>
</tr>
<tr>
<td>Odor</td>
<td>Hydrocarbon</td>
</tr>
<tr>
<td>Cure</td>
<td>Room temperature cure</td>
</tr>
<tr>
<td>Application</td>
<td>Mold Sealer</td>
</tr>
<tr>
<td>Temperature</td>
<td>13 to 35 °C</td>
</tr>
</tbody>
</table>

Specific Benefit
- High gloss finish
- Easy application
- Fast curing
- Eliminates Porosity/Microporosity
- Seals “green” molds and repaired areas

FMS™ is formulated specifically as a sealer for fiberglass reinforced polyester, epoxy and other composite molds commonly used in the fiberglass molding industry. FMS™ must be used when using green, or new, molds with microporosity and other slight surface imperfections.

TYPICAL PROPERTIES OF UNCURED MATERIAL
Specific Gravity @ 25 °C 0.757 to 0.771
Flash Point - See MSDS

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 Material Safety Data Sheet (MSDS).

Mold Preparation
Cleaning:
Mold surfaces must be thoroughly cleaned and dried. All traces of prior release must be removed. This may be accomplished by using Frekote® PMC or other suitable cleaner. Frekote® 915WB™ or light abrasives can be used for heavy build-up. Full curing of green/new molds is highly recommended to ensure optimal performance of the sealer.

Directions for use:
1. Apply FMS™ with a clean, lint free, cotton wiping cloth. Wet the cloth with FMS™ until it is damp but not dripping.

2. Wipe a smooth, wet film over the entire mold surface. For larger molds, apply FMS™ to the surface one section at a time starting at one end and working towards the other. Using a clean cloth, wipe off the area that was just treated to obtain a smooth thin wet layer.

3. Allow a minimum of 15 minutes before applying next coat. New molds require 1 to 2 coats of sealer.

4. NOTE: Changes in temperature will affect solvent dry time. At temperatures below 18°C, waiting time between wiping on and drying off can be slightly longer than 20 seconds. At higher then normal temperatures (greater then 35°C) the wait time is significantly reduced and can be as quick as 1 to 2 seconds. In these conditions it is also advisable to reduce your wipe area to eliminate streaking due to the increased solvent evaporation and polymer cure times. A general guideline is to wait until the edges of the wiped area begins to creep inwards indicating the evaporation has just begun. Wipe from the outside and slowly work your way towards the center. Light hand pressure is all that is needed. No hard rubbing required. change cloth frequently to ensure proper drying of the mold. On small molds, allow up to 15 minutes between coats. If one coat takes more than 15 minutes, simply go back to starting point and begin to apply next coat.

5. Allow the final coat to cure for 20 minutes at 20°C.

Loctite Material Specification
LMS dated February 07, 2007. 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
The product is classified as flammable and must be stored in an appropriate manner in compliance with relevant regulations. Do not store near oxidizing agents or combustible materials. Store product in the unopened container in a dry location. Storage information may also be indicated on the product container labelling.

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 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.
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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

Note
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and are believed to be reliable. We cannot assume
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determine suitability for the user’s purpose of any production
methods mentioned herein and to adopt such precautions as
may be advisable for the protection of property and of persons
against any hazards that may be involved in the handling and
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Patent and Trademark Office.

Reference 0.0
PRODUCT DESCRIPTION

PMC™ provides the following product characteristics:

<table>
<thead>
<tr>
<th>Technology</th>
<th>Mold Release</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear liquid</td>
</tr>
<tr>
<td>Chemical Type</td>
<td>Solvent blend</td>
</tr>
<tr>
<td>Odor</td>
<td>Solvent</td>
</tr>
<tr>
<td>Cure</td>
<td>Room temperature cure</td>
</tr>
<tr>
<td>Application</td>
<td>Release Coatings</td>
</tr>
<tr>
<td>Temperature</td>
<td>20 to 30 °C</td>
</tr>
</tbody>
</table>

PMC™ is a special blend of solvents designed to dissolve and remove wax from polyester molds without dulling the surface. This product can also be used to clean epoxy and metal mold surfaces as well as for cleaning brushes and equipment. PMC™ is highly recommended for preparing polyester mold surfaces prior to application of Frekote® mold sealers and mold release agents.

TYPICAL PROPERTIES OF UNCUREd MATERIAL

Specific Gravity @ 25 °C: 0.821 to 0.854
Flash Point - See MSDS

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 Material Safety Data Sheet (MSDS).

Directions for use:
1. PMC™ should be applied to the mold surface with a clean lint free cloth.
2. Wax and other mold residue will immediately begin to dissolve and should be removed from the surface with a second clean cloth while it is still dissolved in the PMC™.
3. As the cloth becomes saturated with wax and mold residue, dispose of it and use a new cloth.
4. Repeat process until composite and other mold residue is removed.
5. The mold is now ready for use.
6. **NOTE**: A simple test to assess mold cleanliness is the use of masking tape. A coated surface will allow easy release of masking tape, where as a wax free surface will allow good adhesion of masking tape. This test can also be used to determine the effectiveness of Frekote® Release Interfaces. A good interface will prevent any significant degree of tape adhesion.

Loctite Material Specification
LMS dated November 21, 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
The product is classified as flammable and must be stored in an appropriate manner in compliance with relevant regulations. Do not store near oxidizing agents or combustible materials. Store product in the unopened container in a dry location. Storage information may also be indicated on the product container labelling.

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 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

\[
(\degree C \times 1.8) + 32 = \degree F \\
\text{kV/mm} \times 25.4 = \text{V/mil} \\
\text{mm} / 25.4 = \text{inches} \\
\text{µm} / 25.4 = \text{mil} \\
\text{N} \times 0.225 = \text{lb} \\
\text{N/mm} \times 5.71 = \text{lb/in} \\
\text{N/mm}^2 \times 145 = \text{psi} \\
\text{MPa} \times 145 = \text{psi} \\
\text{N·m} \times 8.851 = \text{lb·in} \\
\text{N·m} \times 0.738 = \text{lb·ft} \\
\text{N·mm} \times 0.142 = \text{oz·in} \\
\text{mPa·s} = \text{cP}
\]
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Reference 0.0
PRODUCT DESCRIPTION
Frewax® provides the following product characteristics:

<table>
<thead>
<tr>
<th>Technology</th>
<th>Mold Release</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White or light creme suspension&lt;sup&gt;MS&lt;/sup&gt;</td>
</tr>
<tr>
<td>Chemical Type</td>
<td>Solvent Based Polymer</td>
</tr>
<tr>
<td>Odor</td>
<td>Hydrocarbon</td>
</tr>
<tr>
<td>Cure</td>
<td>Room temperature cure</td>
</tr>
<tr>
<td>Cured Thermal Stability</td>
<td>≤280 °C</td>
</tr>
</tbody>
</table>

**Application**
- **Release Coatings**
- **Application Temperature** 15 to 35 °C

**Specific Benefit**
- High gloss finish
- Multiple releases
- Minimal mold build-up
- Easy application
- Low odor
- Visible mold coverage

Frewax<sup>®</sup> is a unique combination of a wax and a Frekote<sup>®</sup> semi-permanent polymer release agent. This combination provides the user with the advantages of an easy-to-apply liquid wax and the multiple release performance of a polymer resin. By incorporating a wax into the formulation, a visible film is produced that enables easy, user-friendly application and complete mold coverage. Using Frewax<sup>®</sup> provides significant process and labor savings through better mold utilization.

### TYPICAL PROPERTIES OF UNCURED MATERIAL
- Specific Gravity @ 25 °C 0.75 to 0.77<sup>MS</sup>
- Flash Point - See MSDS

### 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 Material Safety Data Sheet (MSDS).

### Mold Preparation
**Cleaning:**
Mold surfaces must be thoroughly cleaned and dried. All traces of prior release must be removed. This may be accomplished by using Frekote<sup>®</sup> PMC or other suitable cleaner. Frekote<sup>®</sup> 915WB™ or light abrasives can be used for heavy build-up.

### Directions for use:
1. Shake Frewax<sup>®</sup> before and during use.
2. Apply Frewax<sup>®</sup> with a clean, lint free, cotton wiping cloth. Wet the cloth with Frewax<sup>®</sup> until it is damp but not dripping.
3. Starting at one end of the mold, wipe a generous wet film over a 91 X 91cm area. Repeat until mold is completely covered.
4. Allow Frewax<sup>®</sup> to haze (dry). This usually takes 5 to 10 minutes at 21°C with good ventilation.
5. Check mold for any region that appears uncoated (where haze is not present). If any uncoated areas are observed, reapply product in the above manner.
6. With a clean, lint free, cotton wiping cloth, polish the Frewax<sup>®</sup> coated mold until a high gloss is obtained. Change cloth frequently to ensure wax build-up on the cloth is not re-deposited on the mold.
7. Repeat steps another 3 times to give a total of 4 coats. This multiple coat system allows the Frekote<sup>®</sup> resin to seal any mold pores and give a sufficient film thickness to permit multiple releases.
8. After the final film has been polished, the mold is ready for use.
9. **NOTE:** For large molds (>305 X 305 cm), polishing is generally easier if coating and polishing are accomplished in stages. For example, coat a 305 X 305 cm area, allow to haze, and polish. Repeat with the next area, until entire mold is coated.
10. **NOTE:** Application of Frewax<sup>®</sup> at mold temperatures above 35 °C may cause streaking.
11. Apply Frewax<sup>®</sup> with a clean, lint free, cotton wiping cloth. Soak cloth with Frewax<sup>®</sup> until it is damp but not dripping.

### Mold Touch up
Abrasion will gradually cause wear and parts will begin to adhere to the mold surface if a continuous release film is not maintained. It's best to always touch-up the mold at the first sign of diminished release, before release becomes difficult. Simply touch-up the entire mold or apply spot touch-ups to high wear areas following steps 1-3 under directions for use. Only 1 coat is usually required for touch-up. Typically, 15 minutes cure time is required prior to resumption of molding.

### Loctite Material Specification<sup>MS</sup>
LMS dated September 25, 2007. 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
The product is classified as flammable and must be stored in an appropriate manner in compliance with relevant regulations. Do not store near oxidizing agents or combustible materials. Store product in the unopened container in a dry location. Storage information may also be indicated on the product container labelling.

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 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

Note
The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits. The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

Trademark usage
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Reference 0.0
Description
Loctite® Frekote® FRP-NC® is a unique release interface specifically formulated for reinforced polyester gel coats (and other associated resin systems). This semi-permanent release coating chemically bonds to the mold surface, forming a micro thin release film. Frekote FRP-NC provides a high gloss finish and minimal mold build-up thus eliminating buffing and cleaning between applications. Multiple releases per application will also lead to significant reductions in mold prep time.

Features
Minimal mold build-up
Multiple releases per application
High gloss finish
Maximum mold utilization
Reduced mold maintenance
Fast cure

Properties
Appearance Clear liquid
Odor Hydrocarbon
Solvents Aliphatic Hydrocarbon, Dibutyl Ether
Specific Gravity 0.770 +/- 0.010
Shelf Life One year from date of manufacture
Special Cautions Moisture sensitive, keep container closed when not in use.
Application Temp 13ºC - 40ºC (55° - 105°F)
Thermal Stability 400ºC (750°F)

Mold Preparation
To work effectively, Frekote Release products must be applied to thoroughly cleaned and dried mold surfaces. All traces of waxes, sealers, rubbing compounds or other release agents must be completely removed. Remove any contaminants with Frekote PMC or suitable cleaning solvents. Light industrial abrasives can be used to remove heavy resin build-up.

Mold Sealing
New Molds: Full curing of new molds is advisable to ensure the best bonding of the Frekote to the mold surface. New fiberglass and epoxy molds should be cured per manufacturer’s instructions before starting full-scale production.

Green molds and recently repaired areas must be sealed with Frekote FMS prior to using Frekote releasing interfaces. Porous and damaged mold surfaces should also be sealed with FMS. Consult FMS Technical Data Sheet for specific application instructions.

Application: *Consult MSDS Prior To Use.*
1. Apply with a clean lint free 100% cotton cloth. Soak cloth with FRP-NC until it is wet, but not dripping.
2. Wipe a smooth, wet film over a 2’ x 2’ to 2’ x 3’ area of the mold surface. Do not over apply.
3. Wait 10-20 seconds at 21ºC (70°F) after application. Gently wipe dry with, a second clean dry, cotton cloth.

Note: Changes in temperature will affect solvent dry time. At temperatures below 18ºC (65°F), waiting time between wiping on and drying off can be slightly longer than 20 seconds. At higher then normal temperatures (greater then 35ºC or 95°F) the wait time is significantly reduced and can be as quick as 1-2 seconds. In these conditions it is also advisable to reduce your wipe area to 1’ x 1’ in order to eliminate streaking due to the increased solvent evaporation and polymer cure times. A general guideline is to wait until the edges of the wiped area begins to creep inwards indicating that evaporation has just begun. Wipe from the outside and slowly work your way towards the center. Light hand pressure is all that is needed. No hard rubbing is required. Change cloth frequently to ensure proper drying of the mold.

4. Coat entire mold surface in this manner slightly over-lapping the last area coated. Apply a maximum of 6 coats initially. A couple of extra coats can be applied in high wear areas for added slip. Allow 15-20 minutes cure time at room temperature between coats and after the final coat.

5. Commence molding. A single coat of FRP-NC should be applied after each release for the first two to three releases. This helps to condition the mold, which in turn offers multiple releases on future production.

Mold Touch up
Abrasion will gradually cause wear and parts will begin to adhere to the mold surface if a continuous release film is not maintained. If release becomes difficult, simply touch-up the area affected. Only one coat is usually required for touch-up.

Flammability/Storage
Frekote FRP-NC contains flammable solvents. The product should always be used in well-ventilated areas. Store in a cool, dry place. Consult MSDS for complete details.

Note
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Mold Release Agent
FREKOTE® FRP-NC®
Industrial Products, October 2003
Description
Loctite® Frekote® HMT-2 is a hot mold touch up version of Frekote 55-NC and is formulated for use on molds with temperatures above 60°C (140°F). After one touch up coat, HMT-2 continues to offer the same multiple releases per application as experienced with the other Frekote products. For constant mold temperatures over 60°C (140°F), Frekote HMT-2 performs effectively on its own.

Features
Multiple Release
No contaminating transfer
No mold build up
Minimum reject rates
Low odor
High temperature application

Properties
Appearance Clear Liquid
Odor Aliphatic Hydrocarbon
Solvents Aliphatic Hydrocarbons
Specific Gravity 0.770 +/- 0.015
Shelf Life One year from date of manufacture
Special Cautions Moisture sensitive, keep container tightly closed when not in use.
Cured thermal stability 400°C (750°F)
Application Temp 60°C - 190°C (140°F - 375°F)

Mold Preparation
The mold surface must be clean and free of any non-Frekote release agents or other contaminants for Frekote HMT-2 to be completely effective. Remove any contaminants with Frekote PMC or other suitable cleaning solvents. Light industrial abrasives can be used to remove heavy resin build up. No mold preparation is required when HMT-2 is used as a touch up coat over another Frekote Product.

Application *Consult MSDS prior to use*
Frekote HMT-2 is intended as a touch up on mold surfaces above 60°C (140°F) and applied by spraying or brushing. For spraying use conventional equipment, ensuring a dry air source or an airless spray system. Frekote HMT-2 dries very rapidly at elevated temperatures. Care should be taken to ensure complete coverage.

Touch-up
Spray or brush on one thin wet film coating over the entire mold surface or on the area that is experiencing difficult release. Allow time for complete solvent evaporation. Upon drying, the HMT-2 polymer is cured and ready for production.

Constant Use
1. If using Frekote HMT-2 as a releasing system on its own, apply a thin wet continuous film coating the entire mold. It is suggested that small areas be coated working progressively from one side of the mold to the other.
2. For the initial application 4 – 6 coats are recommended, allowing a few minutes between coats for solvent evaporation.
3. After the final coat, curing is completed through solvent evaporation and ready for production.
4. Maximum releases will be obtained as the mold surface becomes conditioned to Frekote HMT-2. Performance is enhanced by re-coating once, after the first few initial moldings.

Flammability/Storage
Frekote HMT-2 contains flammable solvents. The product should always be used in well-ventilated areas. Store in a cool dry place. Consult MSDS for complete details.

Note
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