



**FREKOTE®**

**Aqualine® R-180™**

December 2010

**PRODUCT DESCRIPTION**

Aqualine® R-180™ provides the following product characteristics:

<b>Technology</b>	Mold Release
<b>Appearance</b>	White emulsion <sup>LMS</sup>
<b>Chemical Type</b>	Water based emulsion
<b>Odor</b>	Mild
<b>Cure</b>	Heat cure
<b>Cured Thermal Stability</b>	≤315 °C
<b>Application</b>	Release Coatings
<b>Application Temperature</b>	60 to 200 °C
<b>Specific Benefit</b>	<ul style="list-style-type: none"> <li>• Fast curing</li> <li>• Non-flammable</li> <li>• Freeze/Thaw stable</li> <li>• Excellent slip</li> </ul>

Aqualine® R-180™ offers excellent release and slip properties and is recommended for the most demanding molding applications, especially for highly abrasive compounds. When properly applied to a preheated surface, this water based product chemically bonds to the mold surface to form a thin, inert, thermally stable coating capable of releasing all natural and synthetic rubber compounds as well as thermoplastic urethanes and some solid polyurethane cast elastomers.

**TYPICAL PROPERTIES OF UNCURED MATERIAL**

Specific Gravity @ 25 °C	0.98 to 1.02
Flash Point - See MSDS	
pH	3.8 to 4.2 <sup>LMS</sup>

**GENERAL INFORMATION**

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.

**NOTE:** Optimum results will be achieved when molds are cleaned prior to use of Aqualine® R-180™

**Directions for use:**

1. Apply Aqualine® R-180™ to molds pre-heated to a minimum of 60°C. Aqualine® R-180™ is suitable for mold temperatures up to 200°C.
2. Apply Aqualine® R-180™ using a finely atomized fan pattern. Regulate the gun output to 60 - 90 ml/minute for molds heated from 60°C - 150°C. Molds above 150°C regulate gun output to 120 - 150 ml/minute.

3. At 60°C, Aqualine® R-180™ will dry in a few seconds and be fully cured after 25 minutes. At 93°C, cure time is reduced to 10 minutes, and at 150°C Aqualine® R-180™ dries instantly and required only 4 minutes to fully cure.
4. For hot 120 to 200°C molds, or porous molds, apply a minimum of 6 coats. For temperatures ranging from 60 to 120°C, a minimum of four coats should be applied with care taken to avoid emulsion accumulation and run marks due to over application. Allow time for the release agent to cure prior to production.

**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<sup>LMS</sup>**

LMS dated June 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**

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

**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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