

# Frekote® Mold Release Solutions Guide

Volume 4



Excellence is our Passion



**Frekote®**

# Superior mold release every time

**The Frekote® Line of Products is the Broadest Mold Release Line** – Frekote® mold release agents, backed by more than 40 years of research and development, are the global industry standard for performance, quality and value. By pioneering release solutions for many of the world’s largest manufacturing organizations, Henkel understands what it takes to release the most complex materials in the most demanding applications. Henkel has developed Frekote® mold release agents for virtually all types of composite and rubber molding operations. The Frekote® line offers the broadest product range in the industry. From jumbo jets to tennis racquets, tires to O-rings, from custom yachts to bathtubs, we have the release agent you need for most composite and rubber materials.

**Lowest Cost per Release** – Frekote® semipermanent release agents minimize fouling and ensure the highest number of releases possible per application. Our customers realize higher productivity and profitability through reduced downtimes, lower reject rates, and higher quality products. Frekote® products are the industry standard replacement for sacrificial release agents. Unlike sacrificial waxes or silicones, Frekote® semipermanent mold release agents do not transfer to your parts; instead they chemically bond to the mold surface, allowing the parts to release cleanly with no mold release transfer.

Frekote® products are designed to save you money. As an example, the following table represents how polyester molders minimize their molding cost with Frekote® semipermanent mold release technology:

	Traditional	Frekote® Brand		
Release Products	Paste Wax	FRP-NC™	WOLO™	SOLO®
Labor Time (hours)	10 to 15	6 to 7	4 to 5	0.5
Labor Cost	\$100 to \$150	\$60 to \$70	\$40 to \$50	\$5
Material Cost	\$30	\$105	\$125	\$190
Number of Releases	5	20	25	30
Direct Cost	\$26 to \$36	\$8.25 to \$8.75	\$6.60 to \$7.00	\$6.50

Values cited above represent approximated values as of July 2011.

**World Standard Products for Release Application** – Henkel has found “partnering” with customers is a highly effective way of finding solutions to tough molding and application problems. Customers around the globe turn to Frekote® products not just for our unique mold releases, but also for our expertise in developing “customized” solutions. We take pride in our knowledge, experience, and responsiveness in providing the best technical service to our customers around the globe.



# Frekote® Product Selection

This comprehensive guide is designed to make it easy for you to select the right Frekote® mold release agent for a variety of markets and applications. Simply select a suitable release agent for demolding specific substrates and compare the characteristics of different products using the technical data. For additional assistance, visit [www.henkelna.com/frekote](http://www.henkelna.com/frekote), or call **1-800-LOCTITE** (562-8483) in the U.S. or **1-800-263-5043** in Canada.

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## Frekote® Wipes

Frekote® 710-LV™ mold release agent is now available in easy-to-use, prepackaged wipes. See pages 16 and 17 for ordering information.





# Frekote® Release Agents for Advanced Composite Systems

Your Application	Solvent-Based / Semipermanent					
Product Type	Solvent-Based / Semipermanent					
Application	Compression Molding/Casting/Vacuum Bagging		High Slip		High Performance Composites	
Finish	Matte Finish	Satin Finish	Gloss Finish		Gloss Finish	
Frekote® Brand Sealer*	B-15™		B-15™ or FMS-100™		B-15™ or FMS-100™	
Frekote® Brand Solution	44-NC™	55-NC™	700-NC™	770-NC™	710-LV™	
Description	Release Agent	Release Agent	Release Agent	Release Agent	Release Agent	
Appearance	Clear liquid	Clear liquid	Clear liquid	Clear liquid	Clear liquid	
Application Temperature	59°F to 140°F (15°C to 60°C)	59°F to 140°F (15°C to 60°C)	59°F to 275°F (15°C to 135°C)	59°F to 140°F (15°C to 60°C)	59°F to 275°F (15°C to 135°C)	
Cure Time Between Coats at 70°F (21°C)	10 to 15 minutes	5 minutes	5 to 10 minutes	5 to 10 minutes	5 to 10 minutes	
Final Cure Time at 70°F (21°C)	3 hours	30 minutes	15 to 20 minutes	5 to 10 minutes	15 to 20 minutes	
Final Cure Time at 212°F (100°C)	15 minutes	5 minutes	15 to 20 minutes	5 minutes	15 to 20 minutes	
Thermal Stability	Up to 752°F (400°C)	Up to 752°F (400°C)	Up to 752°F (400°C)	Up to 752°F (400°C)	Up to 752°F (400°C)	
Product Description	<p><b>Frekote® 44-NC™</b></p> <ul style="list-style-type: none"> <li>• No mold buildup</li> <li>• No contaminating transfer</li> <li>• High thermal stability</li> </ul> <p>Frekote® 44-NC™ is a semipermanent release polymer designed to provide multiple release for most molding processes with no contaminating transfer. Apply 3 to 6 coats to clean mold surfaces by wiping, brushing or spraying a thin continuous wet film. Allow 15 minutes between coats to dry. Curing of the final coat takes 3 hours at room temperature and can be shortened by baking the mold for 15 minutes at 212°F to 302°F (100°C to 150°C).</p>	<p><b>Frekote® 55-NC™</b></p> <ul style="list-style-type: none"> <li>• Fast cure time</li> <li>• No mold buildup</li> <li>• Reduced odor</li> </ul> <p>Frekote® 55-NC™ is a semipermanent release polymer designed to provide multiple release for most molding processes with no contaminating transfer. Apply 3 to 6 coats to clean mold surfaces by wiping, brushing or spraying a thin continuous wet film. Allow 5 minutes between coats to dry. Curing of the final coat takes 30 minutes at room temperature and can be shortened by heating the mold for 5 minutes at 212°F to 302°F (100°C to 150°C).</p>	<p><b>Frekote® 700-NC™</b></p> <ul style="list-style-type: none"> <li>• Mild odor</li> <li>• Slower room temperature cure</li> <li>• High slip</li> </ul> <p>Frekote® 700-NC™ is a versatile release agent that provides a high slip where mold geometry problems are encountered. It cures at room temperature to give a high gloss finish to the molded parts. Apply to clean mold surfaces by spraying, brushing or wiping with a clean, lint-free, cotton cloth. Apply up to 4 coats, allowing 5 to 10 minutes between coats. Touch up as necessary.</p>	<p><b>Frekote® 770-NC™</b></p> <ul style="list-style-type: none"> <li>• Low odor</li> <li>• Faster room temperature cure</li> <li>• High slip</li> </ul> <p>Frekote® 770-NC™ is a versatile release agent that provides a high slip where mold geometry problems are encountered. It cures rapidly at room temperature to give a high gloss finish to molded parts. Apply to clean mold surfaces by spraying, brushing or wiping with a clean, lint-free, cotton cloth. Apply up to 4 coats, allowing 5 to 10 minutes between coats. Touch up as necessary.</p>	<p><b>Frekote® 710-LV™</b></p> <ul style="list-style-type: none"> <li>• Fast room temperature cure</li> <li>• Reduced VOC</li> <li>• High slip</li> <li>• Gloss finish</li> </ul> <p>Frekote® 710-LV™ is a reduced VOC, semipermanent release agent formulated specifically for release of high performance composite materials. Frekote® 710-LV™ will release thermoset and prepreg epoxies, polyester resins, and thermoplastic compounds. It cures quickly at room temperature, giving a high gloss finish on molded parts. Frekote® 710-LV™ provides a non-contaminating transfer so that parts can be painted or bonded in other assemblies.</p>	



	Water-Based / Semipermanent		Sacrificial
Filament Winding	Application Temp. 20°C to 40°C	Application Temp. 60°C to 205°C	Filament Winding
Gloss Finish	Matte Finish	Matte Finish	Gloss Finish
<b>B-15™ or FMS-100™</b>	<b>No Sealer</b>	<b>RS-100™</b>	<b>N/A</b>
<b>720-NC™</b>	<b>Aqualine® C-600™</b>	<b>Aqualine® C-200™</b>	<b>EXITT™</b>
Release Agent	Release Agent	Release Agent	Release Agent
Clear liquid	White emulsion	White emulsion	Clear liquid
59°F to 110°F (15°C to 43°C)	68°F to 104°F (20°C to 40°C)	68°F to 400°F (20°C to 204°C)	68°F to 140°F (20°C to 60°C)
15 minutes	10 to 15 minutes	10 minutes	Solvent evaporation (up to 60 seconds)
15 to 20 minutes	30 minutes	40 min. @ 140°F (60°C) 20 min. @ 212°F (100°C) 15 min. @ 248°F (120°C)	Solvent evaporation (up to 60 seconds)
N/A	N/A	20 minutes	N/A
Up to 752°F (400°C)	Up to 600°F (315°C)	Up to 600°F (315°C)	Up to 500°F (260°C)

#### Frekote® 720-NC™

- Fast room temperature cure
- High slip
- Gloss finish

Frekote® 720-NC™ is a semipermanent release agent formulated specifically for release of all cast polymer products and for releasing highly filled resins. It cures quickly at room temperature, giving a gloss finish on finished parts. This product is also suitable for certain abrasive closed molding processes, such as RTM and filament winding, and is also ideal for use on highly porous mold surfaces.

#### Frekote® Aqualine® C-600™

- Water-based
- Mold release agent with inherent sealer

Frekote® Aqualine® C-600™ is a semipermanent mold release agent that is a proprietary water-based emulsion. It is developed for releasing large scale parts such as wind blades. It is also ideal for numerous other high performance composite structures.

#### Frekote® Aqualine® C-200™

- Water-based
- No mold buildup
- No contaminating transfer

Frekote® Aqualine® C-200™ is a water-based release agent which provides multiple release with no contaminating transfer. It gives no mold buildup and exhibits high thermal stability for all molding processes. Apply 4 coats to clean mold surfaces at a mold temperature  $\geq 140^\circ\text{F}$  (60°C). Allow each coat to dry before applying subsequent coats. Dry time may be decreased by using a fan or infrared lamp. Post cure the final film for at least 40 minutes at 140°F (60°C) or 20 minutes at 212°F (100°C).

#### Frekote® EXITT™

- Sacrificial coating
- Silicone based
- High gloss finish

Frekote® Exitt™ provides a superior high gloss finish on molds. It is not recommended for use with parts that need to be painted, bonded, or stained. This product was developed for use with urethane elastomer systems but will also release urethane foams, organic rubber compounds, and most specialty molding resins. No mold buildup, precise retention of mold detail.

## Helpful Hints

**Frekote® B-15™ Mold Sealer** is mostly used for metal and composite molds.

**Frekote® FMS-100™ Mold Sealer** is recommended for composite molds.

**Frekote® RS-100™** is used with Aqualine® products.

**Frekote® PMC™** is a universal cleaner that is used prior to application of Frekote® Release Agents.







# Frekote® Release Agents for FRP Composites: Polyester, Vinyl Ester

Your Application	Solvent-Based					
Product Type	Cast Polymer / Solid Surface			Gel-Coat		
Substrate	Cast Polymer / Solid Surface			Gel-Coat		
Finish	Gloss Finish			Gloss Finish		
Application	Wipe On/Buf Off	Wipe On/Leave On		Spray On/Leave On	Wipe On/Wipe Off	Wipe On/Leave On
Frekote® Brand Sealer*	FMS-100™	FMS-100™			FMS-100™	FMS-100™
Frekote® Brand Solution	Frewax®	WOLO™		SOLO®	FRP-NC™	WOLO™
Description	Release Agent	Release Agent		Release Agent	Release Agent	Release Agent
Appearance	Milky white liquid	Clear liquid		Clear liquid	Clear liquid	Clear liquid
Application Temperature	59°F to 95°F (15°C to 35°C)	59°F to 104°F (15°C to 40°C)		59°F to 113°F (15°C to 45°C)	59°F to 104°F (15°C to 40°C)	59°F to 104°F (15°C to 40°C)
Cure Time Between Coats at 70°F (21°C)	5 to 10 minutes (allow to haze dry)	5 minutes		N/A	15 to 20 minutes	5 minutes
Final Cure Time at RT†	5 to 10 minutes	15 minutes		20 to 30 minutes	15 to 20 minutes	15 minutes
Final Cure Time at 212°F (100°C)	N/A	N/A		N/A	N/A	N/A
Thermal Stability	Up to 536°F (280°C)	Up to 752°F (400°C)		Up to 752°F (400°C)	Up to 752°F (400°C)	Up to 752°F (400°C)

### Product Description

#### Frekote® Frewax®

- Easy to use
- Visible release agent
- High gloss finish

Frekote® Frewax® is a combination of a wax and a 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 semipermanent release. Shake Frekote® Frewax® well before and during use. Apply to clean mold surfaces with a clean, lint-free, cotton cloth. Allow Frekote® Frewax® 5 to 10 minutes to haze, then polish the coated mold until a high gloss is obtained. Change cloth frequently; apply a total of 4 coats.

#### Frekote® WOLO™

- Easy application
- Multiple releases
- High gloss finish

Frekote® WOLO™ is a unique polymer release agent that cures quickly and provides multiple release of all polyester resins. Application and use are simple – wipe it on and allow to evaporate to produce a high gloss finish. No polishing is needed. Apply Frekote® WOLO™ with a clean wiping cloth. Wipe a smooth, wet film over the mold surface. Continue to work the material into the mold by lightly wiping the wet film (10 to 30 seconds) until a thin and uniform coating is obtained and allow to evaporate.

#### Frekote® SOLO®

- High gloss finish
- Minimal mold buildup
- Fast curing/ Easy application

Frekote® SOLO® is a unique polymer release agent designed for all gel-coat fiberglass reinforced and filled polyester composites. Application of this product is spray on/leave on using a light and uniform spray pattern to obtain a high gloss finish without polishing. Apply a minimum of 7 coats to a clean mold surface; typically 1 gallon of Frekote® SOLO® will cover 150 square feet of mold surface.

#### Frekote® FRP-NC™

- Minimal mold buildup
- Maximum mold utilization
- High gloss finish

Frekote® FRP-NC™ is a semipermanent release interface specifically formulated for reinforced polyester gel coats. It provides minimal mold buildup thus eliminating buffing and cleaning between applications. Apply to clean mold surfaces with a clean cloth. Wipe on a smooth, wet film. Wait 10 to 20 seconds at room temperature after application. Gently wipe dry with a second dry, cotton cloth. Apply a maximum of 6 coats initially. Allow 15 to 20 minutes cure time between coats and after the final coat at room temperature.

#### Frekote® WOLO™

(See "Did You Know?")

- Easy application
- Multiple releases
- High gloss finish

Frekote® WOLO™ is a unique, polymer release agent that cures quickly and provides multiple release of all polyester resins. Application and use are simple – wipe it on and allow to evaporate to produce a high gloss finish. No polishing is needed. Apply Frekote® WOLO™ with a clean wiping cloth. Wipe a smooth, wet film over the mold surface. Continue to work the material into the mold by lightly wiping the wet film (10 to 30 seconds) until a thin and uniform coating is obtained and allow to evaporate.

## Did You Know?

Frekote® WOLO™ is also available as a low VOC formulation: Frekote® WOLO-LV™.

Visit [www.henkeln.com/frekote](http://www.henkeln.com/frekote) for more information.



**Solvent-Based**

Solvent-Based		Non-Gel-Coat	
High Gloss Finish	Matte Finish	Satin Finish	Gloss Finish
Wipe On/Leave On	Wipe On/Wipe Off	Wipe On/Wipe Off	Wipe On/Wipe Off
<b>FMS-100™</b>	<b>B-15™</b>	<b>B-15™</b>	<b>B-15™ or FMS-100™</b>
<b>WOLO-HL™</b>	<b>44-NC™</b>	<b>55-NC™</b>	<b>770-NC™</b>
Release Agent	Release Agent	Release Agent	Release Agent
Clear liquid	Clear liquid	Clear liquid	Clear liquid
55°F to 106°F (13°C to 41°C)	59°F to 140°F (15°C to 60°C)	59°F to 140°F (15°C to 60°C)	59°F to 140°F (15°C to 60°C)
15 minutes	10 to 15 minutes	5 minutes	5 to 10 minutes
30 minutes	3 hours	30 minutes	5 to 10 minutes
N/A	15 minutes	5 minutes	N/A
Up to 752°F (400°C)	Up to 752°F (400°C)	Up to 752°F (400°C)	Up to 752°F (400°C)

- Frekote® WOLO-HL™**
- High gloss
  - Easy application
  - Multiple releases
  - Used for low VOC gel coat

Frekote® WOLO-HL™ is a semipermanent release agent for low VOC polyester gelcoat parts. WOLO-HL™ can be applied and cured at room temperature. No sealer is required. This product offers a reduction in mold release VOCs by as much as 72%. WOLO-HL™ offers maximum slip and high release performance.

- Frekote® 44-NC™**
- No mold buildup
  - No contaminating transfer
  - High thermal stability

Frekote® 44-NC™ is a semipermanent release polymer designed to provide multiple release for most molding processes with no contaminating transfer. Apply 3 to 6 coats to clean mold surfaces by wiping, brushing or spraying a thin continuous wet film. Allow 15 minutes between coats to dry. Curing of the final coat takes 3 hours at room temperature and can be shortened by baking the mold for 15 minutes at 212°F to 302°F (100°C to 150°C).

- Frekote® 55-NC™**
- Fast cure time
  - No mold buildup
  - Reduced odor

Frekote® 55-NC™ is a semipermanent release polymer designed to provide multiple release for most molding processes with no contaminating transfer. Apply 3 to 6 coats to clean mold surfaces by wiping, brushing or spraying a thin continuous wet film. Allow 5 minutes between coats to dry. Curing of the final coat takes 30 minutes at room temperature and can be shortened by heating the mold for 5 minutes at 212°F to 302°F (100°C to 150°C).

- Frekote® 770-NC™**
- Fast room temperature cure
  - High gloss and high slip
  - Releases most polymers

Frekote® 770-NC™ is a versatile, semipermanent release agent which provides high slip where mold geometry problems are encountered. It cures rapidly at room temperature to give a high gloss finish to the molded parts. Apply to clean mold surfaces by spraying, brushing or wiping with a clean, lint-free cotton cloth. Apply up to 4 coats, allowing 5 to 10 minutes between coats. Touch up as necessary.

## Helpful Hints

**Frekote® B-15™ Mold Sealer** is mostly used for metal and epoxy molds.

**Frekote® FMS-100™ Mold Sealer** is recommended for composite molds.

**Frekote® RS-100™** is used with Aqualine® products.

**Frekote® PMC™** is a universal cleaner that is used prior to application of Frekote® Release Agents.





# Frekote® Release Agents for Rotational / Plastic Molding

Your Application	Polyamide (PA / Nylon)		Polyethylene (PE)	
<b>Substrate</b>				
<b>Product Type</b>	Water-Based	Solvent-Based	Water-Based	Solvent-Based
<b>Application</b>	High Temperature	Low Temperature	High Temperature	Low Temperature
<b>Frekote® Brand Sealer*</b>	<b>RS-100™</b>	<b>B-15™</b>	<b>RS-100™</b>	<b>B-15™</b>
<b>Frekote® Brand Solution</b>	<b>Aqualine® Rotolease®</b>	<b>55-NC™</b>	<b>Aqualine® Rotolease®</b>	<b>770-NC™</b>
<b>Description</b>	Release Agent	Release Agent	Release Agent	Release Agent
<b>Appearance</b>	White emulsion	Clear liquid	White emulsion	Clear liquid
<b>Application Temperature</b>	140°F to 399°F (60°C to 204°C)	59°F to 140°F (15°C to 60°C)	140°F to 399°F (60°C to 204°C)	59°F to 104°F (15°C to 60°C)
<b>Cure Time Between Coats at 70°F (21°C)</b>	10 minutes	5 minutes	10 minutes	5 to 10 minutes
<b>Final Cure Time</b>	5 minutes at 302°F (150°C) 15 minutes at 248°F (120°C) 20 minutes at 212°F (100°C) 35 minutes at 149°F (65°C)	30 minutes at 70°F (21°C) 5 minutes at 212°F (100°C)	5 minutes at 302°F (150°C) 15 minutes at 248°F (120°C) 20 minutes at 212°F (100°C) 35 minutes at 149°F (65°C)	5 to 10 minutes at 70°F (21°C)
<b>Thermal Stability</b>	Up to 450°F (232°C)	Up to 752°F (400°C)	Up to 450°F (232°C)	Up to 752°F (400°C)
<b>Product Description</b>	<p><b>Frekote® Aqualine® Rotolease®</b></p> <ul style="list-style-type: none"> <li>• No mold buildup</li> <li>• High thermal stability</li> </ul> <p>Frekote® Aqualine® Rotolease® is a water-based, semipermanent release agent formulated for a multiple release system when used with rotationally molded resins. When applied correctly, this product offers no mold buildup, room temperature application, no contaminating transfer, and high thermal stability. When Frekote® Rotolease® is applied at room temperature, the mold surface should be post-cured at 149°F (65°C). If molds are &gt;104°F (40°C), apply a minimum of three coats, allowing each to dry before subsequent coats are applied.</p>	<p><b>Frekote® 55-NC™</b></p> <ul style="list-style-type: none"> <li>• Fast cure time</li> <li>• No mold buildup</li> <li>• Reduced odor</li> </ul> <p>Frekote® 55-NC™ is a semipermanent release polymer designed to provide multiple release for most molding processes with no contaminating transfer. Apply 3 to 6 coats to clean mold surfaces by wiping, brushing or spraying a thin continuous wet film. Allow 5 minutes between coats to dry. Curing of the final coat takes 30 minutes at room temperature and can be shortened by heating the mold for 5 minutes at 212°F to 302°F (100°C to 150°C).</p>	<p><b>Frekote® Aqualine® Rotolease®</b></p> <ul style="list-style-type: none"> <li>• No mold buildup</li> <li>• High thermal stability</li> </ul> <p>Frekote® Aqualine® Rotolease® is a water-based, semipermanent release agent formulated for a multiple release system when used with rotationally molded resins. When applied correctly, this product offers no mold buildup, room temperature application, no contaminating transfer, and high thermal stability. When Frekote® Rotolease® is applied at room temperature, the mold surface should be post cured at 149°F (65°C). If molds are &gt;104°F (40°C), apply a minimum of 3 coats, allowing each to dry before subsequent coats are applied.</p>	<p><b>Frekote® 770-NC™</b></p> <ul style="list-style-type: none"> <li>• Fast room temperature cure</li> <li>• High gloss and high slip</li> <li>• Releases most polymers</li> </ul> <p>Frekote® 770-NC™ is a versatile, semi-permanent release agent which provides high slip where mold geometry problems are encountered. It cures rapidly at room temperature to give a high gloss finish to molded parts. Apply to clean mold surfaces by spraying, brushing or wiping with a clean, lint-free cotton cloth. Apply up to 4 coats, allowing 5 to 10 minutes between coats. Touch up as necessary.</p>





Polypropylene (PP)	
Water-Based	Solvent-Based
High Temperature	Low Temperature
<b>RS-100™</b>	<b>B-15™</b>
<b>Aqualine® Rotolease®</b>	<b>770-NC™</b>
Release Agent	Release Agent
White emulsion	Clear liquid
140°F to 399°F (60°C to 204°C)	59°F to 140°F (15°C to 60°C)
10 minutes	5 to 10 minutes
5 minutes at 302°F (150°C) 15 minutes at 248°F (120°C) 20 minutes at 212°F (100°C) 35 minutes at 149°F (65°C)	5 minutes at 70°F (21°C)
Up to 450°F (232°C)	Up to 752°F (400°C)

**Frekote® Aqualine®  
Rotolease®**

- No mold buildup
- High thermal stability

Frekote® Aqualine® Rotolease® is a water-based, semipermanent release agent formulated for a multiple release system when used with rotationally molded resins. When applied correctly, this product offers no mold buildup, room temperature application, no contaminating transfer, and high thermal stability. When Frekote® Rotolease® is applied at room temperature, the mold surface should be post cured at 149°F (65°C). If molds are >104°F (40°C), apply a minimum of 3 coats, allowing each to dry before subsequent coats are applied.

**Frekote® 770-NC™**

- Fast room temperature cure
- High gloss and high slip
- Releases most polymers

Frekote® 770-NC™ is a versatile, semipermanent release agent which provides high slip where mold geometry problems are encountered. It cures rapidly at room temperature to give a high gloss finish to molded parts. Apply to clean mold surfaces by spraying, brushing or wiping with a clean, lint-free cotton cloth. Apply up to 4 coats, allowing 5 to 10 minutes between coats. Touch up as necessary.

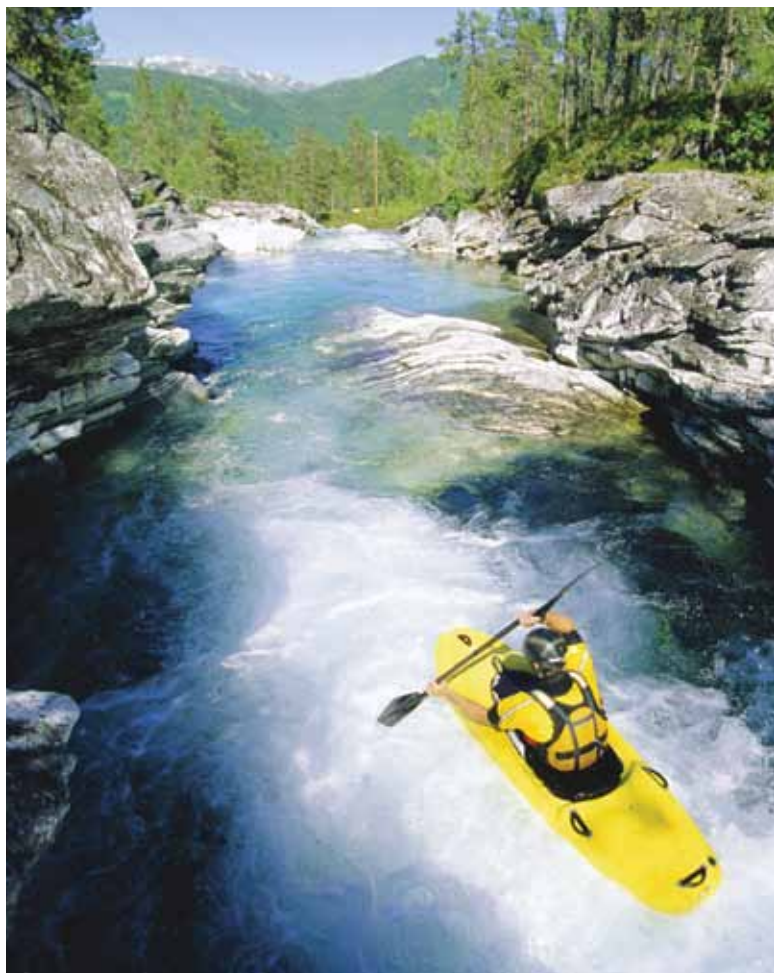
## Helpful Hints

**Frekote® B-15™ Mold Sealer** is mostly used for metal and epoxy molds.

**Frekote® RS-100™** is used with Aqualine® products.

**Frekote® PMC™** is a universal cleaner that is used prior to application of Frekote® Release Agents.

**Rotolease®** is recommended for rotational molding applications.





# Frekote® Release Agents for Rubber Industry

Your Application					
Substrate	Silicone Elastomer Release		General Rubber Goods		
Product Type	Water-Based	Solvent-Based	Water-Based		
Application		High Temperature Application	Low Mold Buildup	High Thermal Stability	Ready to Use
Frekote® Brand Sealer*			RS-100™	RS-100™	RS-100™
Frekote® Brand Solution	S-50™	800-NC™	Aqualine® R-95™	Aqualine® R-110™	Aqualine® R-150™ or Aqualine® R-180™
Description	Release Agent	Release Agent	Release Agent	Release Agent	Release Agent
Appearance	Yellowish liquid	Clear liquid	White emulsion	White emulsion	White emulsion
Application Temperature	221°F to 401°F (105°C to 205°C)	68°F to 275°F (20°C to 135°C)	140°F to 401°F (60°C to 205°C)	140°F to 401°F (60°C to 205°C)	140°F to 401°F (60°C to 205°C)
Cure Time Between Coats at 140°F (60°C)	N/A	15 minutes	30 minutes	30 minutes	30 minutes
Final Cure Time at 302°F (150°C)	Instantly	N/A	4 minutes	4 minutes	4 minutes
Thermal Stability	Up to 400°F (204°C)	Up to 752°F (400°C)	Up to 600°F (315°C)	Up to 600°F (315°C)	Up to 600°F (315°C)
Product Description	<p><b>Frekote® S-50™</b></p> <ul style="list-style-type: none"> <li>Instant cure at elevated temperatures</li> <li>Excellent slip</li> <li>Maximum multiple releases</li> </ul> <p>Frekote® S-50™ is a unique water-based release agent which cures rapidly at elevated temperatures. It offers excellent slip properties and is suitable for the most demanding silicone rubber molding applications. Apply to clean mold surfaces by spraying and ensure a dry air source or airless spray system. Initially, 2 to 3 coats of full strength Frekote® S-50™ should be applied to condition the mold. Touch-up coats should only be applied to areas where poorer release is noticed.</p>	<p><b>Frekote® 800-NC™</b></p> <ul style="list-style-type: none"> <li>No chlorinated solvents</li> <li>Maximum mold usage</li> <li>Reduced reject rates</li> </ul> <p>Frekote® 800-NC™ is a semipermanent release interface for molding rubber compounds. The multiple release, non-migratory system bonds to the mold surface to form micro-thin coatings. Spray apply 3 to 4 light, smooth uniform coats to clean mold surfaces. Use only a dry air source and ensure a continuous smooth wet film is achieved. Allow film to dry and cure prior to commencing molding.</p>	<p><b>Frekote® Aqualine® R-95™</b></p> <ul style="list-style-type: none"> <li>Fast curing</li> <li>No transfer</li> <li>Low mold buildup</li> </ul> <p>Frekote® Aqualine® R-95™ is a semipermanent water-based release agent for rubber molding. When properly applied to a preheated surface, this easy-to-use product chemically bonds to the mold surface to form a thin, inert, thermally stable coating capable of releasing all natural and synthetic polymers, including some silicone compounds and thermoplastic urethanes. Frekote® Aqualine® R-95™ offers excellent release properties and is recommended for the most difficult molding applications where minimal mold buildup and no contaminating transfer is needed.</p>	<p><b>Frekote® Aqualine® R-110™</b></p> <ul style="list-style-type: none"> <li>Fast curing</li> <li>No transfer</li> <li>High thermal stability</li> </ul> <p>Frekote® Aqualine® R-110™ is a semipermanent water-based release agent which provides maximum release performance with high slip properties. Apply by spraying to clean molds, preheated to ≥140°F (60°C). For warm molds, 140°F to 248°F (60°C to 120°C), a minimum of 4 coats should be applied. For hot (120°C to 205°C), new or porous molds, apply a minimum of 6 coats. Allow curing prior to production.</p>	<p><b>Frekote® R-150™ or Aqualine® R-180™</b></p> <ul style="list-style-type: none"> <li>Fast curing</li> <li>High slip</li> <li>Minimum reject rates</li> </ul> <p>Frekote® Aqualine® R-150™ and Frekote® Aqualine® R-180™ are both water-based release agents which provide excellent slip properties. Recommended for the most difficult molding applications, especially for highly abrasive compounds. Apply by spraying to clean molds, preheated to ≥140°F (60°C). For warm molds 140°C to 248°F (60°C to 120°C), a minimum of 4 coats should be applied. For hot 248°F to 401°F (120°C to 205°C), new or porous molds, apply a minimum of 6 coats. Allow curing prior to production.</p>



Technical Rubber (i.e. Neoprene, Nitrile)		Rubber-to-Metal-Bonding		
Water-Based		Water-Based		Solvent-Based
Highly Filled Elastomers	High Slip	Highly Filled Elastomers	Ready to Use	
RS-100™	RS-100™	RS-100™	RS-100™	
<b>Aqualine® R-220™</b>	<b>Aqualine® R-180™</b>	<b>Aqualine® R-220™</b>	<b>Aqualine® R-120™</b>	<b>HMT™ or HMT-2™</b>
Release Agent	Release Agent	Release Agent	Release Agent	Release Agent
White emulsion	White emulsion	White emulsion	White emulsion	Clear liquid
140°F to 401°F (60°C to 205°C)	140°F to 401°F (60°C to 205°C)	140°F to 401°F (60°C to 205°C)	140°F to 401°F (60°C to 205°C)	140°F to 374°F (60°C to 190°C)
25 minutes	30 minutes	25 minutes	30 minutes	5 minutes
4 minutes	4 minutes	4 minutes	4 minutes	1 minutes
Up to 600°F (315°C)	Up to 600°F (315°C)	Up to 600°F (315°C)	Up to 600°F (315°C)	Up to 752°F (400°C)

**Frekote® Aqualine® R-220™**

- Fast curing
- Excellent slip
- Releases most compounds

Frekote® Aqualine® R-220™ is a water-based release agent. It offers excellent release and slip properties and is recommended for the most difficult molding applications, especially for high aspect ratio parts. Apply by spraying to clean molds preheated to ≥140°F (60°C). For warm molds, 140°F to 248°F (60°C to 120°C), a minimum of 4 coats should be applied. For hot 248°F to 401°F (120°C to 205°C), new or porous molds, apply a minimum of 6 coats. Allow curing prior to production.

**Frekote® Aqualine® R-180™**

- Fast curing
- High slip
- Minimum reject rates

Frekote® Aqualine® R-180™ is a water-based release agent, which provides excellent slip properties. Recommended for the most difficult molding applications, especially for highly abrasive compounds. Apply by spraying to clean molds preheated to ≥140°F (60°C). For warm molds, 140°F to 248°F (60°C to 120°C), a minimum of 4 coats should be applied. For hot 248°F to 401°F (120°C to 205°C), new or porous molds, apply a minimum of 6 coats. Allow curing prior to production.

**Frekote® Aqualine® R-220™**

- Fast curing
- Excellent slip
- Releases most compounds

Frekote® Aqualine® R-220™ is a water-based release agent. It offers excellent release and slip properties and is recommended for the most difficult molding applications, especially for high aspect ratio parts. Apply by spraying to clean molds preheated to ≥140°F (60°C). For warm molds, 140°F to 248°F (60°C to 120°C), a minimum of 4 coats should be applied. For hot (120°C to 205°C), new or porous molds, apply a minimum of 6 coats. Allow curing prior to production.

**Frekote® Aqualine® R-120™**

- Fast curing
- No transfer
- High thermal stability

Frekote® Aqualine® R-120™ is a semipermanent water-based release agent which provides maximum release performance with high slip properties. Apply by spraying to clean molds, preheated to ≥140°F (60°C). For warm molds, 140°F to 248°F (60°C to 120°C), a minimum of 4 coats should be applied. For hot (120°C to 205°C), new or porous molds, apply a minimum of 6 coats. Allow curing prior to production.

**Frekote® HMT™ or HMT-2™**

- Multiple releases
- Minimum reject rates
- No contaminating transfer

Frekote® HMT™ and Frekote® HMT-2™ are both excellent solvent-based release products designed for multiple release applications to hot molds ≥140°F (60°C). Frekote® HMT-2™ is less moisture sensitive than Frekote® HMT™. Brush or spray apply (ensure dry air source) 4 to 6 wet film coatings to clean mold surfaces. Allow a few minutes between coats for solvent evaporation. Cure is completed during solvent evaporation. Molding can commence immediately.

## Helpful Hints

**Frekote® PMC™** is a universal cleaner that is used prior to application of Frekote® Release Agents.

**Frekote® RS-100™** is used with Aqualine® products.

**Frekote® R-110™, R-120™, R-220™, S-10WB™** are available as aerosols.

**Frekote® HMT-2™, 770™, 800™, 810™** solvent-based are available as aerosols.





# Frekote® Sacrificial Mold Releases

Your Application	General-Purpose		Phenolic		Silicone
Substrate					
Product Type	Water-Based				
Application Requirement					
Frekote® Brand Solution*	EXITT-EM™	1450™	1450-HS™	S-50™	
Description	Release Agent	Release Agent	Release Agent	Release Agent	
Appearance	White emulsion	Light Amber	Colorless	Yellowish liquid	
Application Temperature	140°F to 355°F (60°C to 180°C)	140°F to 355°F (60°C to 180°C)	140°F to 329°F (60°C to 165°C)	220°F to 390°F (104°C to 199°C)	
Cure Time Between Coats at 70°F (21°C)	Liquid evaporation (up to 10 min. at room temp.)	Liquid evaporation (up to 10 min. at room temp.)	Liquid evaporation (up to 10 min. at room temp.)	Liquid evaporation (up to 10 min. at room temp.)	
Final Cure Time at 70°F (21°C)	Liquid evaporation (up to 10 min. at room temp.)	Liquid evaporation (up to 10 min. at room temp.)	Liquid evaporation (up to 10 min. at room temp.)	Liquid evaporation (up to 10 min. at room temp.)	
Final Cure Time at 212°F (100°C)	Liquid evaporation	Liquid evaporation	Liquid evaporation	Liquid evaporation	
Thermal Stability	Up to 500°F (260°C)	N/A	N/A	< 392°F (200°C)	
Product Description	<p><b>Frekote® EXITT-EM™</b></p> <ul style="list-style-type: none"> <li>• High gloss finish</li> <li>• No mold buildup</li> <li>• Precision retention of mold detail</li> </ul> <p>Frekote® Exitt-EM™ is a water-based silicone emulsion that offers superb release properties, excellent part detail, and provides a water-based alternative to solvent-based products to meet your specific molding requirements. Frekote® EXITT-EM™ is capable of releasing most thermoset and thermoplastic resins, including polyurethanes, and can be applied to steel, aluminum, epoxy, urethane and ceramic mold surfaces.</p>	<p><b>Frekote® 1450™</b></p> <ul style="list-style-type: none"> <li>• Economical use</li> <li>• Minimal buildup</li> <li>• Easy to clean molds</li> </ul> <p>Frekote® 1450™ is a water-based solution, specifically formulated for use with resin/asbestos products. It has been extremely effective in releasing resin/asbestos mixtures molded at 302°F to 329°F (150°C to 165°C) as well as automotive disc brake linings. This product can be diluted from 10:1 to 20:1, which makes it an economical choice for use when a sacrificial product is desired.</p>	<p><b>Frekote® 1450-HS™</b></p> <ul style="list-style-type: none"> <li>• Nonflammable</li> <li>• Minimal mold buildup</li> <li>• Excellent wetting</li> </ul> <p>Frekote® 1450-HS™ is a water-based solution specifically formulated for use with resin/asbestos products. This product is extremely effective at releasing asbestos/phenolic resin mixtures molded at 302°F to 329°F (150°C to 165°C). Dilution ratio of 15:1 to 30:1 makes Frekote® 1450-HS™ economical to use.</p>	<p><b>Frekote® S-50™</b></p> <ul style="list-style-type: none"> <li>• Instant cure at elevated temperature</li> <li>• Excellent slip</li> </ul> <p>Frekote® S-50™ is a water-based material designed for excellent slip in the most difficult-to-release silicone rubber applications. Frekote® S-50™ has no required cure time, low VOC, excellent slip, and low mold buildup. This product forms a thin, inert, thermally stable coating capable of releasing many types of silicone rubbers and is capable of being diluted to a wide range of ratios.</p>	



Epoxies and Thermostat Resins		Urethanes				
Solvent-Based		Solvent-Based				
General-Purpose	High Slip	High Gloss	Semigloss, Easy Clean	Reaction Injection Molding		
<b>1711™ or 1711-I™</b>	<b>AC-4368™</b>	<b>EXITT™ or EXITT-I™</b>	<b>LIFFT™ or LIFFT-I™</b>	<b>Rimlease® 8™</b>		
Release Agents	Release Agent	Release Agents	Release Agents	Release Agent		
Clear liquid	Clear liquid	Clear liquid	Clear liquid	Clear liquid		
68°F to 140°F (20°C to 60°C)	68°F to 140°F (20°C to 60°C)	68°F to 140°F (20°C to 60°C)	68°F to 140°F (20°C to 60°C)	68°F to 140°F (20°C to 60°C)		
Solvent evaporation (up to 60 seconds)	Solvent evaporation (5 to 10 minutes)	Solvent evaporation (up to 60 seconds)	Solvent evaporation (up to 60 seconds)	Solvent evaporation (up to 60 seconds)		
Solvent evaporation (up to 60 seconds)	Solvent evaporation (5 to 10 minutes)	Solvent evaporation (up to 60 seconds)	Solvent evaporation (up to 60 seconds)	Solvent evaporation (up to 60 seconds)		
N/A	N/A	N/A	N/A	N/A		
Up to 500°F (260°C)	Up to 500°F (260°C)	Up to 500°F (260°C)	Up to 500°F (260°C)	Up to 599°F (315°C)		

**Frekote® 1711™**

- Aerosol
- General-purpose
- High gloss
- Stable at 500°F (260°C)

**Frekote® 1711-I™**

- Non-aerosol liquid
- General-purpose
- High gloss
- Stable at 500°F (260°C)

Frekote® 1711™ and Frekote® 1711-I™ are silicone, solvent-based, mold release agents that offer a high gloss finish with excellent part detail and mold geometry retention. These products can be applied to steel, aluminum, epoxy, ceramic, and flexible mold surfaces, and are stable up to 500°F (260°C).

**Frekote® AC-4368™**

- Excellent slip
- Multi-purpose release

Frekote® AC-4368™ is an all-purpose, silicone-based release agent. This product contains a special lubricant which provides optimum release along with surface conditioning on any metal or plastic mold. Frekote® AC-4368™ works equally well releasing epoxies, polyurethanes and polyesters in room temperature and elevated cure systems.

**Frekote® EXITT™**

- Aerosol
- Silicone-based
- High gloss finish

**Frekote® EXITT-I™**

- Non-aerosol liquid
- Silicone-based
- High gloss finish

Developed specifically for urethane elastomer systems, Frekote® EXITT™ and EXITT-I™ give a high gloss finish with precise retention of the mold detail and no buildup. They release urethane foams, organic rubber compounds, and most specialty molding resins, but are not recommended where parts are to be painted, bonded, or stained. Ideally applied at room temperature. Once the solvents have flashed, these coatings are stable up to 482°F (250°C).

**Frekote® LIFFT™**

- Aerosol
- Silicone-based
- High gloss finish

**Frekote® LIFFT-I™**

- Non-aerosol liquid
- Silicone-based
- High gloss finish

Frekote® LIFFT™ and Frekote® LIFFT-I™ provide a semigloss finish on molds and allow for easy part clean-up. These products were developed for use with urethane foams and cast elastomers, and are not recommended for use with parts that need to be painted or bonded.

**Frekote® Rimlease® 8™**

- Semigloss finish
- Excellent slip
- Minimal transfer

Frekote® Rimlease® 8™ was specifically formulated for use as a release interface for RIM and R/RIM polyurethane processes. Frekote® Rimlease® 8™ offers a high slip, semigloss finish and transfers to the part slightly, but can be easily cleaned using warm water prior to painting or any other post-molding process.





Frekote®

# Specialty Products, Cleaners and Sealers

Your Application	Specialty Products				
Product Type	Semipermanent Release				
Substrate	Sand Casting	Organic Rubber	Highly Filled Polymer	Cast Urethane	Polyurethane
Application Requirement	100% Solids	Water-Based	Solvent-Based	Solvent-Based	Water-Based
Frekote® Brand Solution	<b>REL-EAZE™</b>	<b>RC-321™</b>	<b>EFR™</b>	<b>CUR™</b>	<b>PUR-100™</b>
Description	Release Agent	Release Agent	Release Agent	Cleaner / Mold Release	Release Agent
Appearance	Clear liquid	White emulsion	Clear liquid	Clear liquid	Milky, white emulsion
Application Temperature	55°F to 302°F (13°C to 105°C)	140°F to 400°F (60°C to 205°C)	55°F to 109°F (13°C to 43°C)	55°F to 105°F (13°C to 41°C)	Above 120°F (49°C)
Cure Time Between Coats at 70°F (21°C)	N/A	Liquid evaporation	5 minutes	5 minutes	Liquid evaporation Instant at 302°F (150°C)
Final Cure Time at 70°F (21°C)	N/A	5 min. at 302°F (150°C) 10 min. 212°F (100°C) 30 min. at 140°F (60°C)	15 minutes	15 minutes	5 min. at 302°F (150°C) 10 min. 212°F (100°C) 30 min. at 140°F (60°C)
Thermal Stability	Up to 752°F (400°C)	Up to 600°F (315°C)	Up to 752°F (400°C)	Up to 752°F (400°C)	Up to 600°F (315°C)
Product Description	<p><b>Frekote® Rel-Eaze™</b></p> <ul style="list-style-type: none"> <li>Utilized in sand core release</li> <li>Cold box applications</li> <li>Multiple releases</li> </ul> <p>Frekote® Rel-Eaze™ is a high-performance product developed for releasing sand cores used in foundry operations. It can be applied at room temperature. The product offers multiple releases of sand cores and sand molds.</p>	<p><b>Frekote® RC-321™</b></p> <ul style="list-style-type: none"> <li>Fast curing</li> <li>No contaminating transfer</li> <li>Dilutable (3:1)</li> <li>Freeze/thaw stable</li> </ul> <p>Frekote® RC-321™ is a water dilutable concentrate that provides a durable release film for most rubber molding applications. Frekote® RC-321™ chemically bonds to the mold surface to provide a non-transferring film capable of releasing all natural and synthetic polymers (except silicone elastomers). This product cures in 5 minutes at 300°F (149°C), provides minimal mold buildup, and does not transfer to the molded parts.</p>	<p><b>Frekote® EFR™</b></p> <ul style="list-style-type: none"> <li>Fast curing</li> <li>Easy application</li> <li>Seals porous flanges</li> </ul> <p>Frekote® EFR™ is designed specifically as a semipermanent, polymeric release agent for flange sealing on composite molds. Frekote® EFR™ chemically bonds to the mold surface and is ideal for use with highly abrasive processes, such as polymer concrete molding.</p>	<p><b>Frekote® CUR™</b></p> <ul style="list-style-type: none"> <li>Fast cure</li> <li>No transfer</li> <li>Minimal mold buildup</li> <li>Multiple releases</li> </ul> <p>Frekote® CUR™ was formulated to form a semipermanent release coating on the mold surface for rigid, cast polyurethane products. Frekote® CUR™ was designed to be applied to mold surfaces at 68°F to 302°F (20°C to 150°C). The multiple release, non-transferring system chemically bonds to the mold surface to form a micro-thin chemically-resistant coating. Cures very rapidly on the mold surface, has minimal mold buildup, and high thermal and chemical stability.</p>	<p><b>Frekote® PUR-100™</b></p> <ul style="list-style-type: none"> <li>Nontoxic, water-based system</li> <li>Freeze-thaw stable</li> <li>Multiple releases</li> <li>Parts can be painted after molding without preparation</li> </ul> <p>Frekote® PUR-100™ is a proprietary, water-based emulsion developed for releasing rigid, high-density polyurethane foam and cast polyurethane parts. This unique formulation is capable of multiple releases from a single application. Parts molded with Frekote® PUR-100™ can be painted without any additional preparation.</p>

## Helpful Hint

See Technical Data Sheet for proper cleaning procedures prior to sealer application.



Specialty Products			Cleaners		
Semipermanent Release			Cleaners		Cleaner / Mold Release
Polyurethane			Polyester, Epoxy and Metal Molds	Polyester, Epoxy and Composite Molds	Polyester, Composite and Fiberglass Molds
Solvent-Based			Solvent-Based	Water-Based	Solvent-Based
PU7000™	PU7001™	PU7200™	PMC™	915WB™	CMR™
Release Agent	Release Agent	Mold Sealer / Release Agent	Mold Cleaner	Mold Cleaner	Cleaner / Mold Release
Clear liquid	Clear liquid	Clear liquid	Clear liquid	Beige, pasty liquid	Clear liquid
95°F to 150°F (35°C to 65°C)	95°F to 150°F (35°C to 65°C)	95°F to 150°F (35°C to 65°C)	68°F to 86°F (20°C to 30°C)	68°F to 104°F (20°C to 40°C)	55°F to 105°F (13°C to 41°C)
30 seconds	30 seconds	30 seconds	N/A	N/A	N/A
30 seconds	30 seconds	30 seconds	N/A	N/A	15 minutes
450°F (232°C)	450°F (232°C)	450°F (232°C)	N/A	N/A	Up to 752°F (400°C)

#### Frekote® PU7000™

- Gloss finish
- Fast curing
- Low transfer
- Infrequent mold cleaning

Frekote® PU7000™ is a proprietary solvent-based, semipermanent release agent that forms a thin, inert, thermally stable coating capable of obtaining multiple releases on polyurethane-based substrates

#### Frekote® PU7001™

- High slip
- High gloss
- Low transfer
- Easy application

Frekote® PU7001™ is a proprietary solvent-based, semipermanent release agent that is capable of obtaining multiple releases on polyurethane-based substrates, which exhibits low release force and low buildup inside molds.

#### Frekote® PU7200™

- Release agent or sealer
- High slip
- Fast curing
- Low transfer

Frekote® PU7200™ is a proprietary solvent-based, semipermanent release agent and sealer that forms a thin, inert, thermally stable coating capable of obtaining multiple releases on polyurethane-based substrates

#### Frekote® PMC™

- Easy to use
- Eliminates contaminants
- Enhances release effectiveness

Frekote® PMC™ is a special blend of solvents that dissolves and removes wax from composite molds without dulling the surface. Excellent for epoxy and metal mold surfaces as well as brushes and equipment. Apply Frekote® PMC™ to mold surfaces with a clean, cotton cloth. Wax (or other surface contamination) will immediately begin to dissolve and should be removed from the surface with a second clean cloth while the wax is still dissolved in the Frekote® PMC™.

#### Frekote® 915WB™

- High gloss finish
- Minimal mold buildup
- Fast curing/ easy application

Frekote® 915WB™ is a water-based cleaner, developed for removing residue from mold surfaces. The high grade surfactants and emulsifiers, along with the combination of fine abrasives, give excellent results without dulling the mold surface. This product is wiped on and allowed to haze dry, much like a conventional wax, then buffed out to a high gloss finish. Frekote® 915WB™ is designed to be applied and buffed at room temperature, but the temperature should not exceed 105°F (40°C).

#### Frekote® CMR™

- Easy application
- Fast curing
- High gloss
- No touch-up needed after cleaning

Frekote® CMR™ is a unique polymer release agent containing a special blend of resins and cleaning solvents designed to dissolve and remove polymer, composite, and other residues from polyester molds without dulling the surface. Frekote® CMR™ is highly recommended for cleaning polyester mold surfaces with mold buildup resulting from repeated releases using Frekote® WOLO™. Additional releases can be obtained after cleaning the mold surface without touching up with a traditional mold release agent.



# Frekote® Specialty Products, Cleaners and Sealers

Your Application	Sealers					
Product Type	Sealers					
Substrate	Metal Molds		Polyester, Composite and Fiberglass Molds	All Substrates		
Application Requirement	Solvent-Based	Water-Based	Solvent-Based	Solvent-Based		
Finish				Gloss	High Gloss	
Frekote® Brand Solution	B-15™	Aqualine® RS-100™	FMS-100™	CS-122™	CS-123™	
Description	Mold Sealer	Mold Sealer	Mold Sealer	Mold Sealer	Mold Sealer	
Appearance	Clear liquid	Clear liquid	Clear liquid	Clear liquid	Clear liquid	
Application Temperature	59°F to 140°F (15°C to 60°C)	199°F to 401°F (93°C to 205°C)	55°F to 105°F (13°C to 41°C)	55°F to 105°F (13°C to 41°C)	55°F to 105°F (13°C to 41°C)	
Cure Time Between Coats at 70°F (21°C)	30 minutes	15 minutes	15 minutes	5 minutes	5 minutes	
Final Cure Time at 70°F (21°C)	24 hours 60 min. at 212°F (100°C)	20 minutes	2 hours	2 hours	2 hours	
Thermal Stability	Up to 752°F (400°C)	Up to 698°F (370°C)	Up to 752°F (400°C)	Up to 752°F (400°C)	Up to 752°F (400°C)	
Product Description	<p><b>Frekote® B-15™</b></p> <ul style="list-style-type: none"> <li>• Easy to apply</li> <li>• Seals mold porosity</li> <li>• High thermal stability</li> </ul> <p>Frekote® B-15™ mold sealer is formulated to seal mold micro-porosity and light surface scratches. Used in conjunction with other Frekote® products, Frekote® B-15™ provides an excellent base coat, enhancing the release advantages offered. Apply light uniform coats to clean mold surfaces by spraying, brushing, dipping, or wiping with a clean, lint-free cotton cloth. Apply a minimum of 2 coats, allowing 30 minutes between coats. The final coating will cure within 24 hours at room temperature.</p>	<p><b>Frekote® Aqualine® RS-100™</b></p> <ul style="list-style-type: none"> <li>• Water-based product</li> <li>• Seals mold porosity</li> <li>• High thermal stability</li> </ul> <p>Frekote® Aqualine® RS-100™ is a water-based sealer used to seal micro-porosity in steel, and chrome plated molds. Frekote® RS-100™ provides an excellent base coat that significantly increases the number of releases.</p>	<p><b>Frekote® FMS-100™</b></p> <ul style="list-style-type: none"> <li>• Easy to use</li> <li>• High gloss finish</li> <li>• Fast curing</li> </ul> <p>Frekote® FMS-100™ is a proprietary solvent-based, high-performance sealer. It is formulated to use on FRP, epoxy, and other composite mold surfaces. Frekote® FMS-100™ can be applied at room temperature, and cures within 30 minutes of application.</p>	<p><b>Frekote® CS-122™</b></p> <ul style="list-style-type: none"> <li>• Low odor</li> <li>• Fast curing/easy application</li> <li>• Gloss finish</li> </ul> <p>Frekote® CS-122™ is designed to form a thick, inert, thermally stable coating that is compatible with most solvent-based Frekote® release agents. This product can be used to seal larger mold porosities. Application and use of this mold sealer utilizing the wipe-on-leave-on technique produces a durable coating with no need to polish.</p>	<p><b>Frekote® CS-123™</b></p> <ul style="list-style-type: none"> <li>• Low odor</li> <li>• Fast curing/easy application</li> <li>• High gloss finish</li> </ul> <p>Frekote® CS-123™ is designed to form a thick, inert, thermally stable coating that is compatible with most solvent-based Frekote® release agents. This product can be used to seal larger mold porosities. Application and use of this mold sealer utilizing the wipe-on-leave-on technique produces a durable coating with no need to polish.</p>	



Frekote®

# Material Application Guide\*

Frekote® Brand Mold Release Agent	POLYMER										COMPOUND										PROCESS									
	Epoxy (Non-Gel-Coat)	Polyester Gel-Coat – Glossy	Polyester Gel-Coat – Matte	Polyester Gel-Coat / Resin – Low Shrink	Polyamide (PA / Nylon)	Polyester (Non-Gel-Coat)	Polyethylene (PE)	Polypropylene (PP)	Vinyl Ester	Polyurethane	Polymer Concrete	Butyl	EPDM	HNBR	Natural	Neoprene	Nitrile	Silicone	Thermoplastic Urethane (TPU)	Vamac	Viton	Cast Polymer / Solid Surface	Compression / Transfer / Vacuum Bagging	Filament Winding	Hand Lay Up / Spray Up	Injection Molding	Rotational Molding	Rubber-to-Metal Bonding	Tire Treads	Sand Casting
1450™	◆				◆	◆																◆	◆	◆						
1450-HS™	◆				◆	◆																◆	◆	◆						
1711™	◆				◆	◆																◆	◆	◆						
44-NC™	○		○		○	◆	◆	◆	◆													◆	○		◆					
55-NC™	○		◆	◆	◆	◆	◆	◆	◆													◆	○		◆					
700-NC™	○	◆		○	◆	○	◆	◆	○													◆	○	◆	◆					
710-LV™	○	◆		○	◆	○	◆	◆	○													◆	○	◆	◆					
720-NC™	○		◆	○	◆	○	○	○	○		○											◆	○	○	◆	○				
770-NC™	○	◆		○	◆	○	○	○	○													◆	○	○	◆					
800-NC™																													◆	
810-NC™																													◆	
815-NC™																													◆	
AC-4368™	◆				◆	◆																◆	◆	◆						
C-200™	○				○		○	○															○				○			
C-600™	○					◆			○																					
CMR™		○		◆																		○			○					
CS-122™	○	◆		○	◆	○	◆	◆	○													◆	○	◆	◆					
CS-123™	○	○		○	◆	○	◆	◆	○													◆	○	◆	◆					
CUR™										○																				
EFR™	○		◆	○	◆	○	○	○	○													◆	◆	○	◆	○				
EXITT™	◆				◆	◆																◆	◆	◆						
EXITT-EM™	◆				◆	◆																◆	◆	◆						
FREWAX®		◆																				◆			◆					
FRP-NC™		○		◆		◆																○			○					
HMT™	○		○		○	◆	◆	◆	◆													◆	○		◆					
HMT-2™	○		◆	◆	◆	◆	◆	◆	◆													◆	○		◆					
LIFFT™	◆				◆	◆																◆	◆	◆						
PU7000™										○																				
PU7001™										○																				
PU7200™										○																				
PUR-100™																		◆												
R-95™											○	◆			○	◆	◆					○	◆							
R-110™														○	○	◆	◆						○			◆				
R-120™											○	◆			○	◆	◆					○	○			◆				
R-150™											○	○	○	○	○	◆	◆	◆		○	○	○	○			○				◆
R-180™											○	○	○	○	○	◆	◆	◆		○	○	○	○			○				○
R-220™											○	○	○	○	○	◆	◆	◆		○	○	○	○			○				○
RC-321™											○	○	○	○	○	◆	◆	◆		○	○	○	○			○				○
REL-EAZE™																														○
RIMLEASE® 8™																										◆				
ROTOLEASE®							○	○																			○			
S-50™																		○					○		○			◆	◆	
SOLO®		○		◆																			○							
WOLO™		○		◆																			○							
WOLO-HL™				○																										

\* Not all products are listed above. Refer to pages 16 and 17 for complete information.



# Frekote® Product Information

## Ordering Information / Index

Frekote® Brand Product	Item Number	Container Size	Pieces per Case	Page
44-NC™	83430	16 fl. oz. can (1 pint)	4	2, 5
	83434	1 gallon can	4	2, 5
	83433	5 gallon pail	1	2, 5
	83432	55 gallon drum	1	2, 5
48-NC™	83435	16 fl. oz. can (1 pint)	4	Web*
	83438	1 gallon can	4	Web*
	83437	5 gallon pail	1	Web*
55-NC™	83444	9.6 oz. net wt. aerosol	12	2, 5, 6
	83440	16 fl. oz. can (1 pint)	4	2, 5, 6
	83443	1 gallon can	4	2, 5, 6
	83442	5 gallon pail	1	2, 5, 6
700-NC™	83441	55 gallon drum	1	2, 5, 6
	38428	10.5 oz. net wt. aerosol	12	2
	38424	16 fl. oz. can (1 pint)	4	2
	38425	1 gallon can	4	2
710-LV™	38426	5 gallon pail	1	2
	38427	55 gallon drum	1	2
	41345	1 gallon can	4	2
710-LV™ Wipes	41344	5 gallon pail	1	2
	1053401	1 case (20 packs w/10 wipes/pack)	200	1, 2
710-NC™	38429	1 gallon can	4	Web*
	38430	5 gallon pail	1	Web*
	38431	55 gallon drum	1	Web*
720-NC™	38422	16 fl. oz. can (1 pint)	4	3
	38423	1 gallon can	4	3
770-NC™	83469	9.6 oz. net wt. aerosol	12	2, 5, 6, 7
	83465	16 fl. oz. can (1 pint)	4	2, 5, 6, 7
	83468	1 gallon can	4	2, 5, 6, 7
	83467	5 gallon pail	1	2, 5, 6, 7
	83466	55 gallon drum	1	2, 5, 6, 7
800-NC™	83474	10.7 oz. net wt. aerosol	12	8
	83473	1 gallon can	4	8
	83472	5 gallon pail	1	8
810-NC™	83479	10.3 oz. net wt. aerosol	12	Web*
815-NC™	83483	1 gallon can	4	Web*
	83482	5 gallon pail	1	Web*
	83481	55 gallon drum	1	Web*
B-15™	83493	16 fl. oz. can (1 pint)	4	14
	83496	1 gallon can	4	14
	83494	5 gallon pail	1	14
CMR™	40613	1 gallon can	4	13
CS-122™	1541195	1 gallon can	4	14
	1578098	5 gallon pail	1	14
	1572444	55 gallon drum	1	14
CS-123™	1553322	1 gallon can	4	14
	1578097	5 gallon pail	1	14
	1572445	55 gallon drum	1	14

Frekote® Brand Product	Item Number	Container Size	Pieces per Case	Page
CUR™	83508	16 fl. oz. can (1 pint)	4	12
	83510	1 gallon can	4	12
	83509	5 gallon pail	1	12
EFR™	38432	16 fl. oz. can (1 pint)	4	12
	38434	5 gallon can	1	12
FMS™	38412	16 fl. oz. can (1 pint)	4	Web*
	38413	1 gallon can	4	Web*
	38414	5 gallon pail	1	Web*
	38415	55 gallon drum	1	Web*
FMS-100™	1102885	1 pint	4	14
	1102884	1 gallon can	4	14
	1102886	5 gallon container	1	14
FRP-NC™	38416	16 fl. oz. can (1 pint)	4	4
	38417	1 gallon can	4	4
	38418	5 gallon pail	1	4
	38419	55 gallon drum	1	4
	83540	1 gallon can	4	9
HMT™	83539	5 gallon pail	1	9
	83538	55 gallon drum	1	9
	38439	9.7 oz. net wt. aerosol can	4	9
HMT-2™	38435	16 fl. oz. can (1 pint)	4	9
	38436	1 gallon can	1	9
	38437	5 gallon pail	1	9
	38438	55 gallon drum	1	9
PU7000™	1664434	1 gallon can	4	13
	1664158	5 gallon pail	1	13
	1666113	55 gallon drum	1	13
PU7001™	1669689	1 gallon can	4	13
	1670095	5 gallon pail	1	13
	1670078	55 gallon drum	1	13
	1670058	1 gallon can	4	13
PU7200™	1670077	5 gallon pail	1	13
	38172	1 gallon can	4	12
PUR-100™	38171	5 gallon pail	1	12
	83570	1 gallon can	4	Web*
PUR-NC™	83569	5 gallon pail	1	Web*
	SOLO®	38406	16 fl. oz. can (1 pint)	4
38407		1 gallon can	4	4
38408		5 gallon pail	1	4
38409		55 gallon drum	1	4
WOLO™	83631	16 fl. oz. can (1 pint)	4	4
	83634	1 gallon can	4	4
	83633	5 gallon pail	1	4
WOLO HL™	1102837	1 gallon can	1	5
	1102839	5 gallon container	1	5
	1104253	55 gallon drum	1	5
WOLO-HS™	967328	1 gallon can	4	Web*
	967327	5 gallon pail	1	Web*
	967326	55 gallon drum	1	Web*
WOLO-LV™	40029	1 gallon can	4	Web*
	40030	5 gallon pail	1	Web*

\* Visit [www.henkelna.com/frekote](http://www.henkelna.com/frekote) for more information on these products.





## Ordering Information / Index

Frekote® Brand Product	Item Number	Container Size	Pieces per Case	Page		
Solvent-Based, Sacrificial Products	1711™	83426	9.2 oz. net wt. aerosol	12	11	
	1711-I™	83417	1 gallon can	4	11	
		83416	5 gallon pail	1	11	
		83415	55 gallon drum	1	11	
		83490	9.2 oz. net wt. aerosol	12	11	
	AC-4368™	83486	16 fl. oz. can (1 pint)	4	11	
		83489	1 gallon can	4	11	
		83488	5 gallon pail	1	11	
		83487	55 gallon drum	1	11	
	EXITT™	83511	9.5 oz. net wt. aerosol	12	3, 11	
		83516	16 fl. oz. can (1 pint)	4	11	
	EXITT-I™	83518	5 gallon pail	1	11	
		83517	55 gallon drum	1	11	
		38410	16 fl. oz. can (1 pint)	4	4	
	FREWAX®	38411	1 gallon pail	4	4	
		LIFFT™	83551	9.5 oz. net wt. aerosol	12	11
	LIFFT-I™	83557	1 gallon can	4	11	
		83554	5 gallon pail	1	11	
		83553	55 gallon drum	1	11	
RIMLEASE® 8™	83610	55 gallon drum	1	11		
Cleaners	915WB™	40614	1 liter can	10	13	
	PMC™	83559	16 fl. oz. can (1 pint)	4	13	
		83562	1 gallon can	4	13	
		83561	5 gallon pail	1	13	
		83560	55 gallon drum	1	13	
	Water-Based, Sacrificial Products	1450™	83412	5 gallon pail	1	10
		1450-HS™	83413	55 gallon drum	1	10
			1532157	55 gallon drum	1	10
		EXITT-EM™	83514	5 gallon pail	1	10
			83513	55 gallon drum	1	10
Rel-Eaze™		1289250	1 gallon container	1	12	
		1330931	5 gallon container	1	12	
		1330951	55 gallon container	1	12	
		1276166	250 gallon tote	1	12	
S-50™		37086	12.8 oz. net wt. aerosol	12	8, 10	
	36529	1 gallon can	4	8, 10		
	36530	5 gallon pail	1	8, 10		
	36534	55 gallon drum	1	8, 10		

Frekote® Brand Product	Item Number	Container Size	Pieces per Case	Page	
Water-Based, Semipermanent Products and Sealers	Aqualine® C-200™	83503	1 gallon can	4	3
		83502	5 gallon pail	1	3
	Aqualine® C-210™	83505	5 gallon pail	1	Web*
		83504	55 gallon drum	1	Web*
	Aqualine® C-600™	1102213	1 gallon container	1	3
		1102214	5 gallon container	1	3
		1102215	55 gallon drum	1	3
	Aqualine® PUR-100™	38172	1 gallon can	4	13
		38171	5 gallon pail	1	13
		38170	55 gallon drum	1	13
	Aqualine® R-95™	83689	1 gallon can	4	8
		83690	55 gallon drum	1	8
		83691	275 gallon tote	1	8
	Aqualine® R-100™	83572	5 gallon pail	1	Web*
		83571	55 gallon drum	1	Web*
	Aqualine® RS-100™	1301928	1 gallon can	1	14
		1301929	5 gallon pail	1	14
	Aqualine® R-110™	83575	12.8 oz. net wt. aerosol	12	8
		83580	1 gallon can	4	8
		83579	5 gallon pail	1	8
		83578	55 gallon drum	1	8
	Aqualine® R-120™	83586	12.8 oz. net wt. aerosol	12	9
		83585	1 gallon can	4	9
		83584	5 gallon pail	1	9
		83583	55 gallon drum	1	9
		83590	1 gallon can	4	8
	Aqualine® R-150™	83589	5 gallon pail	1	8
		83588	55 gallon drum	1	8
	Aqualine® R-180™	36751	1 gallon can	4	9
		36535	5 gallon pail	1	9
38229		55 gallon drum	1	9	
Aqualine® R-220™	41731	5 gallon pail	1	9	
	41730	55 gallon drum	1	9	
Aqualine® RC-321™	83606	1 gallon can	4	12	
	83635	5 gallon pail	1	12	
	83604	55 gallon drum	1	12	
Aqualine® Rotorelease®	36750	1 gallon can	4	6, 7	
	36749	5 gallon pail	1	6, 7	

\* Visit [www.henkel.com/frekote](http://www.henkel.com/frekote) for more information on these products.

## Troubleshooting Guide

Problem	Cause	Solution
Complete failure to obtain release	Insufficiently cleaned mold surface has prevented Frekote® from bonding to the mold	Strip out part; thoroughly clean mold and reapply Frekote®
	Improperly cured Frekote® film	Ensure that Frekote® is fully cured before molding
	Precipitated and thus ineffective Frekote®	Examine Frekote®, if separation is present, replace with fresh material; clean mold and reapply
Poor release accompanied by small particles of molding material left on mold surface	Micro-porosity present in mold	Thoroughly clean mold and apply a Frekote® mold sealer; reapply Frekote® top coats
Poor release accompanied by white patches on parts	Insufficiently cleaned mold surface that prevents Frekote® from bonding properly, resulting in transfer to parts	Thoroughly clean mold and reapply Frekote®
Poor release accompanied by discolored blemishes on parts	Solvent-based Frekote® contaminated by use of synthetic application cloths and contaminants applied to tool surface	Thoroughly clean mold and reapply Frekote®, ensuring the use of non-synthetic application cloths
Poor release in high-draft areas	Lack of slip due to mold geometry to difficult high-draft areas	Apply one or two extra coats of Frekote® or touch-up coats with Frekote® WOLO-HS™
Inability to achieve multiple release	Unconditioned mold surface	Reapply Frekote® frequently for initial production shift; thereafter gradually decrease the frequency of application
	Separated and thus ineffective Frekote®	Examine Frekote®, if separation is present, use fresh material
Good release but buildup of Frekote® on mold surface	Over application of Frekote®	Thoroughly clean mold and reduce amount of Frekote® applied
Good release but parts exhibit white blemishes	Excessive Frekote® applied to mold, resulting in transfer to parts	Thoroughly clean mold and reduce amount of Frekote® applied

For technical product assistance, call 1-800-562-8483 in the U.S. or 1-800-263-5043 in Canada.



Global Distributor of Henkel LOCTITE  
(800) 888-0698 [info@ellsworth.com](mailto:info@ellsworth.com)

**USA**

Henkel Corporation  
One Henkel Way  
Rocky Hill, Connecticut 06067  
Tel: 1.800.562.8483  
Tel: 1.860.571.5100  
Fax: 1.860.571.5465

**Canada**

Henkel Canada Corporation  
2515 Meadowpine Blvd.  
Mississauga, Ontario L5N 6C3  
Tel: 1.800.263.5043 (within Canada)  
Tel: 1.905.814.6511  
Fax: 1.905.814.5391

**Mexico**

Henkel Capital, S.A. de C.V.  
Blvd. Magnocentro No. 8 Piso 2  
Interlomas  
52760 Huixquilucan  
Edo. de México  
Tel: +52.55.3300.3644  
Tel: +52.55.3300.3669  
Fax: +52.55.3300.3019

**South America**

Henkel Ltda.  
Rua Karl Hüller, 136 – Jd.  
Canhema 09941-410  
Diadema/Sao Paulo, Brazil  
Tel: 0800.704.2334 (within Brazil)  
Tel: +55.11.3205.8955  
Fax: +55.11.3205.8887

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