

LOCTITE®

Mould Release Agents ... the better way to demould

Frekote®



Advanced Solutions

Henkel Technologies is much more than just a manufacturer of adhesives – it is, and has always been, solution-driven with a high regard for invention and deep commitment to research and development. Finding better, more cost-effective ways has always been the Henkel Technologies mission. With the addition of Frekote® to its product family, Henkel Technologies has become a leading supplier of speciality chemicals.

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

The Loctite® Frekote® Range is the Broadest Mould Release Line – Frekote® mould release agents, backed by over 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 organisations, Henkel Technologies understands what it takes to release the most complex materials in the most demanding applications. Henkel Technologies has designed mould release agents for virtually all composite and rubber moulding operations. The Loctite® Frekote® line offers the broadest product range in the industry. From jumbo jets to tennis rackets, truck tyres to O-rings, bathtubs to custom yachts, we have the release agent you need for most composite and rubber materials.

Lowest Cost per Release – Loctite® Frekote® semi-permanent release agents minimise fouling and ensure the highest number of releases possible per application. Our customers realise higher productivity and profitability through reduced downtime; lower reject rates, and higher quality products. Frekote® products are the industry standard replacement for sacrificial release agents. Unlike sacrificial waxes or silicones, Loctite® Frekote® semi-permanent mould release agents do not transfer to your parts; instead they chemically bond with the mould surface. The parts release cleanly, and will not stick to low surface energy films. Loctite® Frekote® products are designed to save your money.

Release Product	Wax Paste	Polymer Wipe-on-wipe-off	Frekote® WOLO	Frekote® 1-STEP
Labour time	12 hrs.	6 hrs.	4 hrs.	1 hr.
Labour cost (20 €/hr.)	240 €	120 €	80 €	20 €
Material cost (Sealer, MRA, Wipes)	20 €	80 €	60 €	120 €
No. of releases (per application)	5	20	25	30
Direct cost (per release)	52 €	10 €	5.6 €	4.7 €

Example of how polyester moulders minimise their moulding cost on a 20 m² boat mould with Frekote technology

Making the Right Choice

This comprehensive guide is designed to make it easy for you to select the right Loctite® Frekote® mould release agent for a variety of markets and applications. Simply select a suitable release agent for demoulding specific substrates and compare the characteristics of different products using the technical data. Choose the compatible dispensing equipment for your application and see the product list for ordering information.

Markets Served

For an initial market overview

Thermoset Plastics	Thermoplastic	Rubbers
Advanced Composites Epoxy Systems <ul style="list-style-type: none"> Aerospace Aircrafts, Helicopters ... Recreational Bicycles, Skis, Rackets ... Special Racing parts, Medicals, Electronics, Filament windings ... page 4	GRP Composites Polyester, Vinyl Ester <ul style="list-style-type: none"> Marine GRP Boats, Yachts, Jet-skis ... Transportation GRP Panels, Roofs, Spoilers ... Construction GRP Wind rotor blades, Cultured marble sinks & countertops, Bathtubs ... page 6	Rotational Moulding <ul style="list-style-type: none"> Recreational Kayaks, Pedal boats ... Construction Containers, Tanks, Chairs, Waste bins ... page 8
		Rubber Industry <ul style="list-style-type: none"> Tyre Treads / Side walls Technical Rubber Vibration dampers, Roller blade wheels, Footwear, Custom moulding ... page 10



Application Selector Guide

To meet your individual requirements

- 4** Release Agents for Advanced Composites, Epoxy Systems
- 6** Release Agents for GRP Composites, Polyester, Vinyl Ester
- 8** Release Agents for Rotational Moulding
- 10** Release Agents for the Rubber Industry

12 Dispensing Equipment

To select compatible applicators

14 Application Overview & Trouble Shooting Guide

For your assistance

15 Complete Product List

Including ordering information

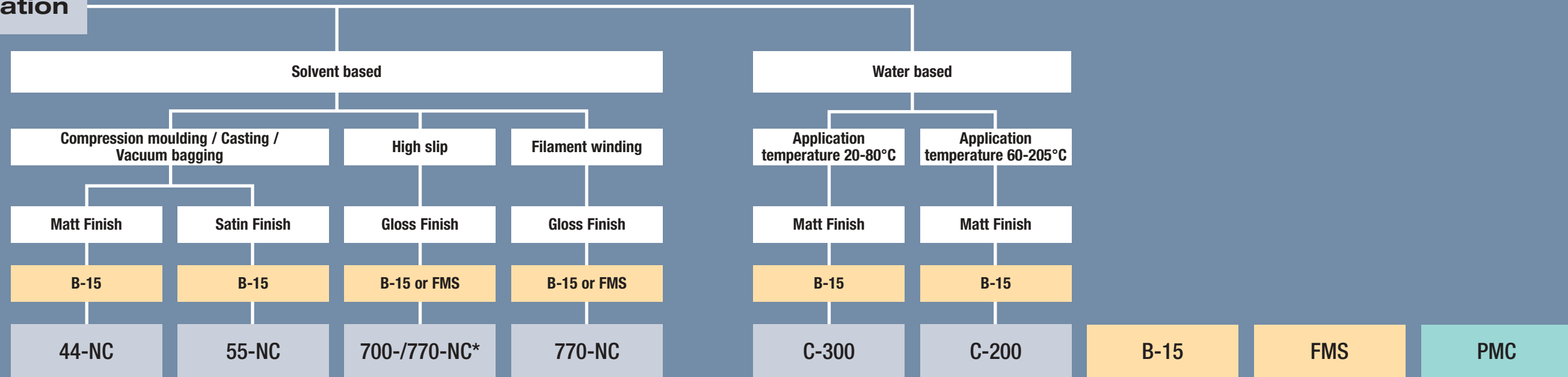
Loctite® Frekote® Release Agents for Advanced Composites Epoxy Systems



Your application

Handy Hints:

- **B-15** Mould Sealer is mostly used for metal and epoxy moulds
- **FMS** Mould Sealer is mostly used for polyester moulds
- **PMC** is a universal cleaner prior to application of Loctite® Frekote® Release Agents



Solution

	44-NC	55-NC	700-/770-NC*	770-NC	C-300	C-200	B-15	FMS	PMC
Description:	Release agent	Release agent	Release agent	Release agent	Release agent	Release agent	Mould sealer	Mould sealer	Mould cleaner
Appearance:	Clear liquid	Clear liquid	Clear liquid	Clear liquid	White emulsion	White emulsion	Clear liquid	Clear liquid	Clear liquid
Application temperature:	15-60°C	15-60°C	15-135°C/15-60°C	15-60°C	20-80°C	60-205°C	15-60°C	15-35°C	15-40°C
Cure time @ RT:	3 hrs.	30 min.	10 min.	5 -10 min.	3 hrs.	n.a.	24 hrs.	15 -20 min.	n.a.
Cure time @ 100°C:	15 min.	5 min.	5 min.	n.a.	10 min.	20 min.	60 min.	n.a.	n.a.
Thermal stability:	up to 400°C	up to 400°C	up to 400°C	up to 400°C	up to 280°C	up to 315°C	n.a.	n.a.	n.a.

Product Description

Loctite® Frekote® 44-NC

- No mould build-up
- No contaminating transfer
- High thermal stability

Loctite® Frekote® 44NC is a semi-permanent release polymer designed to provide multiple release for most moulding processes with no contaminating transfer. Apply 3-6 coats to clean mould surfaces by wiping, brushing or spraying a thin continuous wet film. Allow 15 min. between coats to dry. Curing of the final coat takes 3 hrs. at RT and can be shortened by baking the mould for 15 min. at 100-150°C.

Loctite® Frekote® 55-NC

- Fast cure time
- No mould build-up
- Reduced odour

Loctite® Frekote® 55-NC is a semi-permanent release polymer designed to provide multiple release for most moulding processes with no contaminating transfer. Apply 3-6 coats to clean mould surfaces by wiping, brushing or spraying a thin continuous wet film. Allow 5 min. between coats to dry. Curing of the final coat takes 30 min. at RT and can be shortened by heating the mould for 5 min. at 100-150°C.

Loctite® Frekote® 700-NC

- Fast RT cure
- High gloss and high slip
- Releases most polymers

Loctite® Frekote® 700-NC is a versatile release agent which provides high slip where mould geometry problems are encountered. It cures rapidly at RT to give a high gloss finish to the moulded parts. Apply to clean mould surfaces by spraying, brushing or wiping with a clean, lint-free, cotton cloth. Apply up to 4 coats, allowing 5-10 min. between coats. Touch up as necessary.

Loctite® *Frekote® 770-NC

- Fast RT cure
- High gloss and high slip
- Releases most polymers

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

Loctite® Frekote® Aqualine® C-300

- Water based
- RT curable
- Multiple releases

Loctite® Frekote® Aqualine® C-300 is a unique water based release agent specifically formulated for reinforced epoxy and polyester composites, suitable to cure at RT. It provides multiple release with no contaminating transfer, gives no mould build-up and exhibits high thermal stability. Apply to clean mould surfaces by spraying. Ensure a dry air source or airless spray system. A minimum of 4 coats needs to be applied at RT, allowing a 10 min. cure time between each coat. After the last coat, cure for 3 hrs. at RT.

Loctite® Frekote® Aqualine® C-200

- Water based
- No mould build up
- No contaminating transfer

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

Loctite® Frekote® B-15

- Easy to apply
- Seals mould porosity
- High thermal stability

Loctite® Frekote® B-15 mould sealer is formulated to seal mould micro porosity and light surface scratches. Used in conjunction with other Loctite® Frekote® products, B-15 provides an excellent base coat enhancing the release advantages offered. Apply light uniform coats to clean mould surfaces by spraying, brushing, dipping or wiping with a clean, lint-free cotton cloth. Apply a minimum of 2 coats, allowing 30 min. between coats. The final coating will cure within 24 hrs. at RT.

Loctite® Frekote® FMS

- Easy to apply
- Fast cure
- Seals mould porosity

Loctite® Frekote® Mould Sealer (FMS) for glass fibre reinforced polyester, epoxy and other resin-type moulds. Use to seal new moulds and older moulds with micro-porosity and light surface blemishes. An excellent base coat enhancing the release advantages of all Loctite® Frekote® products. Apply at RT by wiping on with a clean, dry, lint-free cotton cloth. Wipe on a smooth, wet film; wait 15-20 sec., then gently wipe dry. Apply 1-3 coats, allowing 15-20 min. between coats and after the final coat.

Loctite® Frekote® PMC

- Easy to use
- Eliminates contaminants
- Enhances release effectiveness

Loctite® Frekote® PMC is a special blend of solvents that dissolves and removes wax from composite moulds without dulling the surface. Excellent for epoxy and metal mould surfaces as well as brushes and equipment. Apply Loctite® Frekote® PMC to mould 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 it is still dissolved in the PMC.

Loctite® Frekote® Release Agents for GRP Composites Polyester, Vinyl Ester

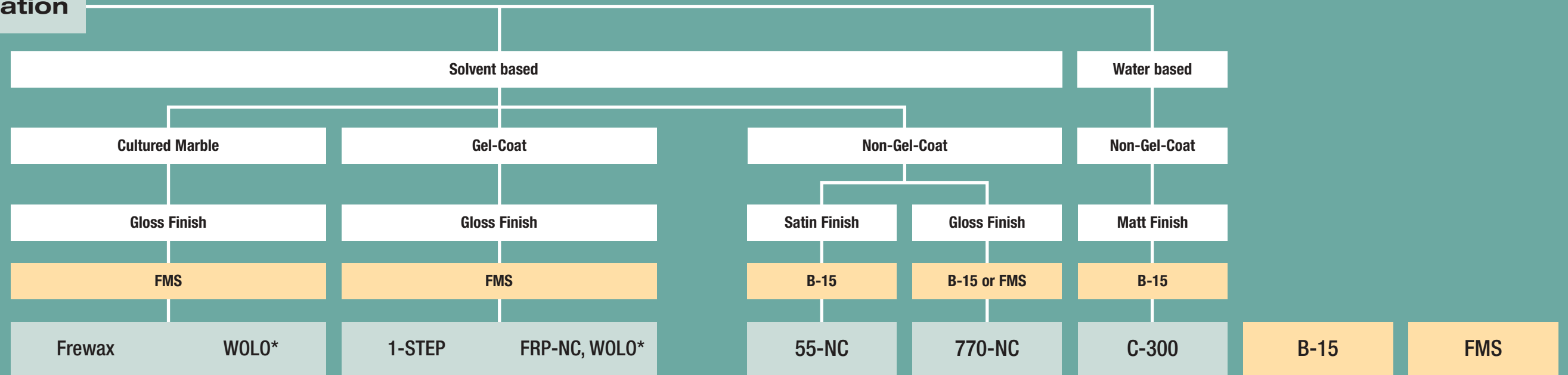


Your application

Handy Hints:

- **B-15** Mould Sealer is mostly used for metal and epoxy moulds
- **FMS** Mould Sealer is mostly used for polyester moulds
- **PMC** is a universal cleaner prior to application of Loctite® Frekote® Release Agents

Solution



Description:	Release agent	Release agent	Release agent	Release agent	Release agent	Release agent	Release agent	Mould sealer	Mould sealer
Appearance:	Milky white	Clear liquid	Clear liquid	Clear liquid	Clear liquid	Clear liquid	White emulsion	Clear liquid	Clear liquid
Application temperature:	15-35°C	15-40°C	15-45°C	15-45°C	15-60°C	15-60°C	20-60°C	15-60°C	15-35°C
Cure time @ RT:	5-10 min.	15 min.	30 min.	15-20 min.	30 min.	5-10 min.	3 hrs.	24 hrs.	15-20 min.
Cure time @ 100°C:	n.a.	n.a.	n.a.	n.a.	5 min.	n.a.	10 min.	60 min.	n.a.
Thermal stability:	up to 280°C	up to 400°C	up to 400°C	up to 400°C	up to 400°C	up to 400°C	up to 280°C	n.a.	n.a.

Product Description

Loctite® Frekote® Frewax

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

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

Loctite® *Frekote® WOLO

- Easy application
- Multiple releases
- High gloss finish

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

Loctite® Frekote® 1-STEP

- Easy to use
- High gloss finish
- Minimal mould build-up

Loctite® Frekote® 1-STEP is a unique polymer release agent, designed to release all fibre-glass reinforced and filled polyester composites. Application and use is fast and easy – simply spray on and leave on, gloss is instant. Loctite® Frekote® 1-STEP does not require a mould sealer. Spray 5 fine coats (7 coats for new moulds), using an HVLP spray gun. Repeat one coat after another (no cure time required between coats) to give a final coverage of 200 ml/m² of mould surface.

Loctite® Frekote® FRP-NC

- Minimal mould build-up
- Maximum mould utilisation
- High gloss finish

Loctite® Frekote® FRP-NC is a semi-permanent release interface specifically formulated for reinforced polyester gel coats. It provides minimal mould build-up thus eliminating buffing and cleaning between applications. Apply to clean mould surfaces with a clean cloth. Wipe on a smooth, wet film. Wait 10-20 sec. at RT after application. Gently wipe dry with a second dry, cotton cloth. Apply a maximum of 6 coats initially. Allow 15-20 min. cure time between coats and after the final coat at RT.

Loctite® Frekote® 55-NC

- Fast cure time
- No mould build-up
- Reduced odour

Loctite® Frekote® 55-NC is a semi-permanent release polymer designed to provide multiple release for most moulding processes with no contaminating transfer. Apply 3-6 coats to clean mould surfaces by wiping, brushing or spraying a thin continuous wet film. Allow 5 min. between coats to dry. Curing of the final coat takes 30 min. at RT and can be shortened by heating the mould for 5 min. at 100-150°C.

Loctite® Frekote® 770-NC

- Fast RT cure
- High gloss and high slip
- Releases most polymers

Loctite® Frekote® 770-NC is a versatile semi-permanent release agent which provides high slip where mould geometry problems are encountered. It cures rapidly at RT to give a high gloss finish to the moulded parts. Apply to clean mould surfaces by spraying, brushing or wiping with a clean, lint-free cotton cloth. Apply up to 4 coats; allow 5-10 minutes between coats. Touch up as necessary.

Loctite® Frekote® Aqualine® C-300

- Water based
- RT curable
- Multiple releases

Loctite® Frekote® Aqualine® C-300 is a unique water based release agent specifically formulated for reinforced epoxy and polyester composites, suitable to cure at RT. It provides multiple release with no contaminating transfer, gives high thermal stability. Apply to clean mould surfaces by spraying. Ensure a dry air source or airless spray system. A minimum of 4 coats needs to be applied at RT, allowing a 10 min. cure time between each coat. After the last coat, cure for 3 hrs. at RT.

Loctite® Frekote® B-15

- Easy to apply
- Seals mould porosity
- High thermal stability

Loctite® Frekote® B-15 mould sealer is formulated to seal mould micro porosity and light surface scratches. Used in conjunction with other Loctite® Frekote® products, B-15 provides an excellent base coat enhancing the release advantages offered. Apply light uniform coats to clean mould surfaces by spraying, brushing, dipping or wiping with a clean, lint-free cotton cloth. Apply a minimum of 2 coats, allowing 30 min. between coats. The final coating will cure within 24 hrs. at RT.

FMS

- Easy to apply
- Fast cure
- Seals mould porosity

Loctite® Frekote® Mould Sealer (FMS) for glass fibre reinforced polyester, epoxy and other resin-type moulds. Use to seal new moulds and older moulds with micro-porosity and light surface blemishes. An excellent base coat enhancing the release advantages of all Frekote® products. Apply at RT by wiping on with a clean, dry, lint-free cotton cloth. Wipe on a smooth, wet film; wait 15-20 sec., then gently wipe dry. Apply 1-3 coats, allowing 15-20 min. between coats and after the final coat.

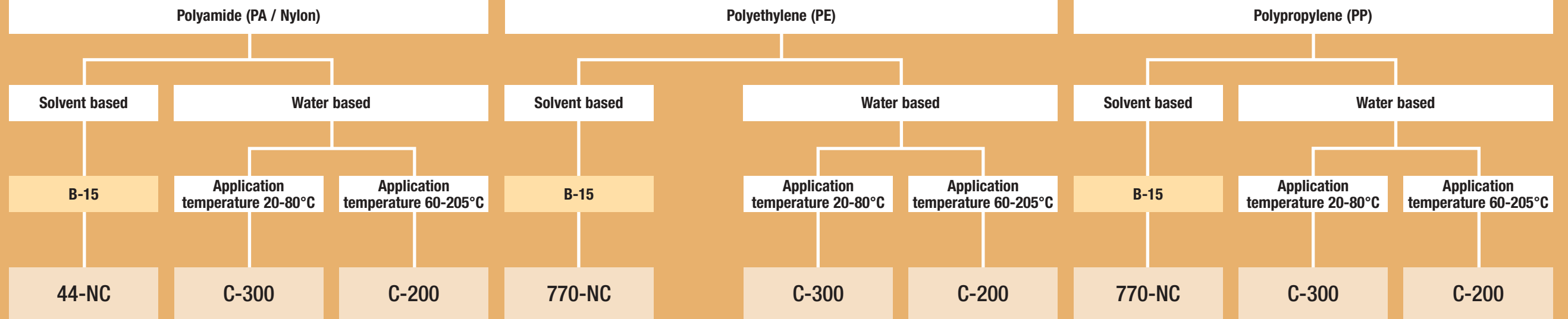
Loctite® Frekote® Release Agents for Rotational Moulding



Your application

Handy Hints:

- B-15 Mould Sealer is mostly used for metal and epoxy moulds
- PMC is a universal cleaner prior to application of Loctite® Frekote® Release Agents



Solution

Description:	Release agent	Release agent	Release agent	Release agent	Release agent	Release agent	Release agent	Release agent	Release agent	Release agent
Appearance:	Clear liquid	White emulsion	White emulsion	Clear liquid	White emulsion	White emulsion	Clear liquid	White emulsion	White emulsion	White emulsion
Application temperature:	15-60°C	20-80°C	60-205°C	15-60°C	20-80°C	60-205°C	15-60°C	20-80°C	60-205°C	60-205°C
Cure time @ RT:	3 hrs.	3 hrs.	n.a.	5 min.	3 hrs.	n.a.	5 min.	3 hrs.	n.a.	n.a.
Cure time @ 100°C:	15 min.	10 min.	20 min.	n.a.	10 min.	20 min.	n.a.	10 min.	20 min.	20 min.
Thermal stability:	up to 400°C	up to 280°C	up to 315°C	up to 400°C	up to 280°C	up to 315°C	up to 400°C	up to 280°C	up to 315°C	up to 315°C

Product Description

Loctite® Frekote® 44-NC

- No mould build-up
- No contaminating transfer
- High thermal stability

Loctite® Frekote® 44-NC is a semi-permanent release polymer designed to provide multiple release for most moulding processes with no contaminating transfer. Apply 3-6 coats to clean mould surfaces by wiping, brushing or spraying a thin continuous wet film. Allow 15 min. between coats to dry. Curing of the final coat takes 3 hrs. at RT and can be shortened by heating the mould for 15 min. at 100-150°C.

Loctite® Frekote® Aqualine® C-300

- Water based
- RT curable
- Multiple releases

Loctite® Frekote® Aqualine® C-300 is a unique water based release agent formulated agent which cures at RT. It provides multiple release with no contaminating transfer, gives no mould build-up and exhibits high thermal stability. Apply to clean mould surfaces by spraying. Ensure a dry air source or airless spray system. A minimum of 4 coats needs to be applied at RT, allowing a 10 min. cure time between each coat. After the last coat, cure for 3 hrs. at RT.

Loctite® Frekote® Aqualine® C-200

- Water based
- No mould build up
- No contaminating transfer

Loctite® Frekote® Aqualine® C-200 is a water based release agent which provides multiple release with no contaminating transfer. It gives no mould build-up and exhibits high thermal stability for all moulding processes. Apply 4 coats to clean mould surfaces at a mould temperature ≥ 60°C. Allow each coat to dry before applying subsequent coats. Dry time may be decreased by using a fan or infrared lamps. Post cure the final film for at least 40 min. at 60°C or 20 min. at 100°C.

Loctite® Frekote® 770-NC

- Fast RT cure
- High gloss and high slip
- Releases most polymers

Loctite® Frekote® 770-NC is a versatile semi-permanent release agent which provides high slip where mould geometry problems are encountered. It cures rapidly at RT to give a high gloss finish to the moulded parts. Apply to clean mould surfaces by spraying, brushing or wiping with a clean, lint-free cotton cloth. Apply up to 4 coats; allow 5 minutes between coats. Touch up as necessary.

Loctite® Frekote® Aqualine® C-300

- Water based
- RT curable
- Multiple releases

Loctite® Frekote® Aqualine® C-300 is a unique water based release agent formulated agent which cures at RT. It provides multiple release with no contaminating transfer, gives no mould build-up and exhibits high thermal stability. Apply to clean mould surfaces by spraying. Ensure a dry air source or airless spray system. A minimum of 4 coats needs to be applied at RT, allowing a 10 min. cure time between each coat. After the last coat, cure for 3 hrs. at RT.

Loctite® Frekote® Aqualine® C-200

- Water based
- No mould build up
- No contaminating transfer

Loctite® Frekote® Aqualine® C-200 is a water based release agent which provides multiple release with no contaminating transfer. It gives no mould build-up and exhibits high thermal stability for all moulding processes. Apply 4 coats to clean mould surfaces at a mould temperature ≥ 60°C. Allow each coat to dry before applying subsequent coats. Dry time may be decreased by using a fan or infrared lamps. Post cure the final film for at least 40 min. at 60°C or 20 min. at 100°C.

Loctite® Frekote® 770-NC

- Fast RT cure
- High gloss and high slip
- Releases most polymers

Loctite® Frekote® 770-NC is a versatile semi-permanent release agent which provides high slip where mould geometry problems are encountered. It cures rapidly at RT to give a high gloss finish to the moulded parts. Apply to clean mould surfaces by spraying, brushing or wiping with a clean, lint-free cotton cloth. Apply up to 4 coats; allow 5 minutes between coats. Touch up as necessary.

Loctite® Frekote® Aqualine® C-300

- Water based
- RT curable
- Multiple releases

Loctite® Frekote® Aqualine® C-300 is a unique water based release agent formulated agent which cures at RT. It provides multiple release with no contaminating transfer, gives no mould build-up and exhibits high thermal stability. Apply to clean mould surfaces by spraying. Ensure a dry air source or airless spray system. A minimum of 4 coats needs to be applied at RT, allowing a 10 min. cure time between each coat. After the last coat, cure for 3 hrs. at RT.

Loctite® Frekote® Aqualine® C-200

- Water based
- No mould build up
- No contaminating transfer

Loctite® Frekote® Aqualine® C-200 is a water based release agent which provides multiple release with no contaminating transfer. It gives no mould build-up and exhibits high thermal stability for all moulding processes. Apply 4 coats to clean mould surfaces at a mould temperature ≥ 60°C. Allow each coat to dry before applying subsequent coats. Dry time may be decreased by using a fan or infrared lamps. Post cure the final film for at least 40 min. at 60°C or 20 min. at 100°C.

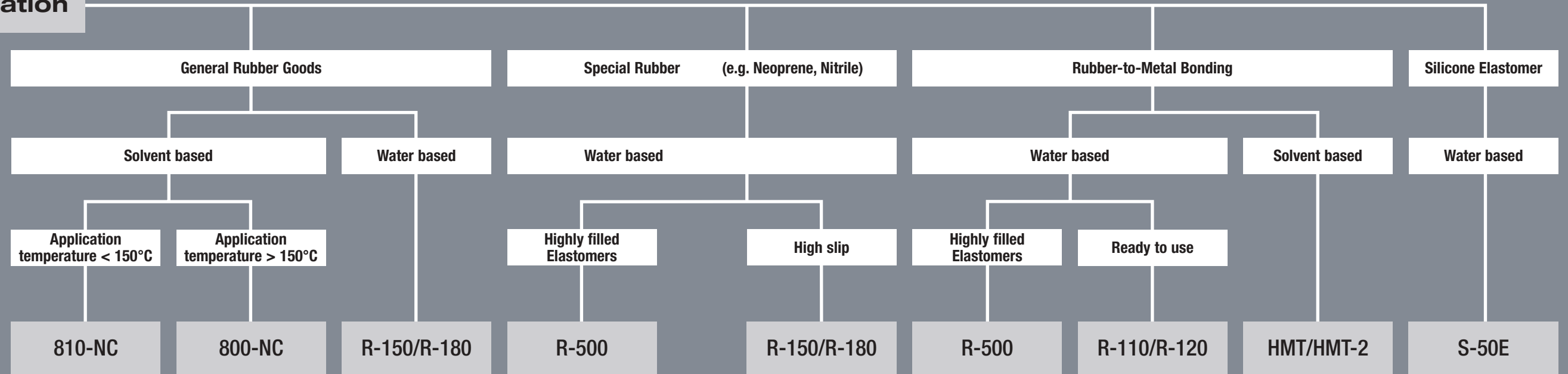
Loctite® Frekote® Release Agents for Rubber Industry



Your application

Handy Hints:

- PMC is a universal cleaner prior to application of Loctite® Frekote® Release Agents



Solution

	810-NC	800-NC	R-150/R-180	R-500	R-150/R-180	R-500	R-110/R-120	HMT/HMT-2	S-50E
Description:	Release agent	Release agent	Release agent	Release agent	Release agent	Release agent	Release agent	Release agent	Release agent
Appearance:	Clear liquid	Clear liquid	White emulsion	White emulsion	White emulsion	White emulsion	White emulsion	Clear liquid	Yellowish liquid
Application temperature:	60-230°C	135-230°C	60-205°C	60-205°C	60-205°C	60-205°C	60-205°C	60-190°C	105-205°C
Cure time @ 60°C:	15 min.	n.a.	30 min.	30 min.	30 min.	30 min.	30 min.	5 min.	n.a.
Cure time @ 150°C:	n.a.	30 sec.	4 min.	4 min.	4 min.	4 min.	4 min.	Instantly	Instantly
Thermal stability:	up to 400°C	up to 400°C	up to 315°C	up to 315°C	up to 315°C	up to 315°C	up to 315°C	up to 400°C	up to 205°C

Product Description

Loctite® Frekote® 810-NC

- No chlorinated solvents
- Maximum mould usage
- Reduced reject rates

Loctite® Frekote® 810-NC is a semi-permanent release interface for moulding rubber compounds. The multiple release non-migratory system bonds to the mould surface to form micro-thin coatings. Spray apply 3-4 light, smooth uniform coats to clean mould surfaces. Use only a dry air source and ensure a continuous smooth wet film is achieved. Allow film to dry & cure prior to commencing moulding.

Loctite® Frekote® 800-NC

- No chlorinated solvents
- Maximum mould usage
- Reduced reject rates

Loctite® Frekote® 800-NC is a semi-permanent release interface for moulding rubber compounds. The multiple release non-migratory system bonds to the mould surface to form micro-thin coatings. Spray apply 3-4 light, smooth uniform coats to clean mould surfaces. Use only a dry air source and ensure a continuous smooth wet film is achieved. Allow film to dry & cure prior to commencing moulding.

Loctite® Frekote® R-150/R-180

- Fast curing
- High slip
- Minimum reject rates

Loctite® Frekote® Aqualine® R-150 and R-180 are both water based release agents which provide excellent slip properties. Recommended for the most difficult moulding applications, especially for highly abrasive compounds. Apply by spraying to clean moulds pre-heated to >60°C. For warm moulds (60-120°C), a minimum of 4 coats should be applied. For hot (120-205°C), new or porous moulds, apply a minimum of 6 coats. Allow to cure prior to production.

Loctite® Frekote® R-500

- Fast curing
- Excellent slip
- Releases most compounds

Loctite® Frekote® Aqualine® R-500 is a water based release agent. It offers excellent release and slip properties and is recommended for the most difficult moulding applications, especially for high aspect ratio parts. Apply by spraying to clean moulds pre-heated to >60°C. For warm moulds (60-120°C), a minimum of 4 coats should be applied. For hot (120-205°C), new or porous moulds, apply a minimum of 6 coats. Allow to cure prior to production.

Loctite® Frekote® R-150/R-180

- Fast curing
- High slip
- Minimum reject rates

Loctite® Frekote® Aqualine® R-150 and R-180 are both water based release agents which provide excellent slip properties. Recommended for the most difficult moulding applications, especially for highly abrasive compounds. Apply by spraying to clean moulds pre-heated to >60°C. For warm moulds (60-120°C), a minimum of 4 coats should be applied. For hot (120-205°C), new or porous moulds, apply a minimum of 6 coats. Allow to cure prior to production.

Loctite® Frekote® R-500

- Fast curing
- Excellent slip
- Releases most compounds

Loctite® Frekote® Aqualine® R-500 is a water based release agent. It offers excellent release and slip properties and is recommended for the most difficult moulding applications, especially for high aspect ratio parts. Apply by spraying to clean moulds pre-heated to >60°C. For warm moulds (60-120°C), a minimum of 4 coats should be applied. For hot (120-205°C), new or porous moulds, apply a minimum of 6 coats. Allow to cure prior to production.

Loctite® Frekote® R-110/R-120

- Fast curing
- No transfer
- High thermal stability

Loctite® Frekote® Aqualine® R-110 and R-120 are semi-permanent water based release agents which provide maximum release performance with high slip properties. Apply by spraying to clean moulds, pre-heated to >60°C. For warm moulds (60-120°C), a minimum of 4 coats should be applied. For hot (120-205°C), new or porous moulds, apply a minimum of 6 coats. Allow to cure prior to production.

Loctite® Frekote® HMT/HMT-2

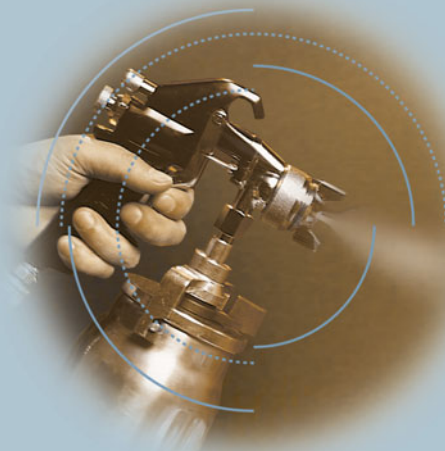
- Multiple release
- Minimum reject rates
- No contaminating transfer

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

Loctite® Frekote® S-50E

- Instant cure at elevated temp.
- Excellent slip
- Maximum multiple release


Loctite® Frekote® S-50E 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 moulding applications. Apply to clean mould surfaces by spraying and ensure a dry air source or airless spray system. Initially, 2-3 coats of full strength S-50E should be applied to condition the mould. Touch up coats should only be applied to areas where poorer release is noticed.






Loctite® Frekote® Dispensing Applicators

Loctite® Frekote® Applicators are state-of-the-art dispensing units designed for the application of mould release agents. These units combine ergonomics, user-friendly design, and reliability.

The equipment includes spray guns, pressure control units and material feed systems. The supply of fluid is achieved via pressure tanks. Mechanical valves control the individual impulses of fluid emission. The efficient valves and tank reservoirs have a very solid construction suited to industrial applications. The sprayguns are suited to intermittent application jobs. The different extensions of the valves allow installation into machines with limited inner space or in narrow recessed areas. High grade materials allow application with spray materials of difficult nature. The spray valves are provided with two connections to allow separate supply of release agent and atomising air. Atomising air and release agent can be adjusted individually to produce the required spray profile. Supply hoses for air and fluid must always be installed with sufficient size of diameter. When a number of valves are grouped together the hose lengths should be consistent for all valves to provide equal flow.

<p>Items 97706 97707 97712 97713</p>	<p>Pressure Pots 3 litre / 5 litre / 10 litre / 30 litre</p>
<p>Features</p> <ul style="list-style-type: none"> • Wide opening lid for easy refilling. • Safety relief valve. • 2 pressure regulators with gauges. • Automatic depressurising air inlet valve. 	<p>The Loctite® Frekote® equipment range includes pressure tanks for all sorts of applications. The safety of each individual tank is based on tests in keeping with the strict rules of the German Pressure Tank Ordinance before they are cleared for the markets at home and abroad. Tanks are designed and produced according to virtually all applicable European standard specifications. The Loctite® Frekote® tanks are made of stainless steel in order to guarantee robustness and compatibility with a wide range of chemical agents. Other pressure pots are usually galvanised or cast iron or aluminium. These materials WILL REACT with release agents causing corrosion and contamination.</p> <ul style="list-style-type: none"> • Pressure Pots 10 litre w/o Pneumatics 97712 and 30 litre w/o Pneumatics 97713 are designed for Spray Cart 97701. In connection with Pneumatics 97708 they can also be use as stand-alone Units.

<p>Items 97740 97760</p>	<p>HVLP Spray Gun</p>
<p>Features</p> <ul style="list-style-type: none"> • Nozzle and needle made from stainless steel. • Duo-feed hose, 3 m. • 97740 0,5 mm Nozzle • 97760 0,8 mm Nozzle 	<p>This model is a heavy duty spray gun, suited for spraying Loctite® Frekote® 1-Step. High Volume Low Pressure (HVLP) spraying is more efficient, cost effective and produces the same fine finish at the same speed as conventional compressed air spray guns, without all the 'over spray', 'bounce back' and air pollution.</p> <p>Technical Specification</p> <ul style="list-style-type: none"> • Weight: 650 g

<p>Item 97725</p>	<p>HVLP Fine Spray Gun</p>																														
<p>Features</p> <ul style="list-style-type: none"> • 0.3; 0.5; 0.8 mm nozzles and needles made from stainless steel. • Different nozzle extensions available. • Aircaps for different spray angles available. • Duo-feed hose, 3 m. 	<p>The Loctite® Frekote® Fine Spray Gun is specially designed to handle sprayable fluids of very low viscosities. Fine co-ordination of precision made nozzle, needle and aircap produce an atomising result which gives an extremely smooth "lay" on moulds and dies particularly when applying release agents. The High Volume Low Pressure (HVLP) spraying is more efficient, cost effective and produces the same fine finish at the same speed as conventional compressed air spray guns, without all the "over spray", "bounce back" and air pollution. In accordance with latest regulations, release agents free of CFC are recommended for use with these guns. These agents provide a smooth finish of fine droplets to the surface, when applied with this gun. Worldwide, this very handy gun is most popular within the field of thermoplastic industries and the foundry industries. The short, lightweight gun body and the Duo-feed hose, which passes fluid as well as atomising air through the grip, allows comfortable handling.</p> <p>Technical Specification</p> <ul style="list-style-type: none"> • Weight: 245 g 																														
 <p>Extensions</p>	<p>Selector Charts</p> <table border="1"> <thead> <tr> <th>Spray Guns</th> <th>Item #</th> </tr> </thead> <tbody> <tr> <td>HVLP Fine Spray Gun 0,5 mm, 60° flat fan, incl. Protecting Ring and 3 m Duo Tube</td> <td>97725</td> </tr> <tr> <td colspan="2">Fine Spray Guns with Extensions</td> </tr> <tr> <td>Fine Spray Gun 0,5 mm, 60° flat fan, with 90° Extension, length 200 mm</td> <td>97716</td> </tr> <tr> <td>Fine Spray Gun 0,5 mm, 60° flat fan, with 90° Extension, length 400 mm</td> <td>97717</td> </tr> <tr> <td>Fine Spray Gun 0,5 mm, 60° flat fan, with 90° Extension, length 600 mm</td> <td>97719</td> </tr> <tr> <td>Fine Spray Gun 0,5 mm, 60° flat fan, with 45° Extension, length 600 mm</td> <td>97720</td> </tr> <tr> <td>Fine Spray Gun 0,5 mm, 15° ring fan, with Extension, length 600 mm</td> <td>97721</td> </tr> <tr> <td colspan="2">Accessories</td> </tr> <tr> <td>Sealing and Repair Kit for Fine Spray Gun</td> <td>97730</td> </tr> <tr> <td>Centrifugal Separator with sinter filter and manual drain valve</td> <td>97714</td> </tr> <tr> <td colspan="2">Nozzles</td> </tr> <tr> <td>Nozzle Change Set 0,3 mm, consists of Nozzle 0,3 mm, Needle 0,3 mm, Air Cap 60° flat fan</td> <td>8991506</td> </tr> <tr> <td>Nozzle Change Set 0,5 mm, consists of Nozzle 0,5 mm, Needle 0,5 mm, Air Cap 60° flat fan</td> <td>8991507</td> </tr> <tr> <td>Nozzle Change Set 0,8 mm, consists of Nozzle 0,8 mm, Needle 0,8 mm, Air Cap 60° flat fan</td> <td>8991508</td> </tr> </tbody> </table>	Spray Guns	Item #	HVLP Fine Spray Gun 0,5 mm, 60° flat fan, incl. Protecting Ring and 3 m Duo Tube	97725	Fine Spray Guns with Extensions		Fine Spray Gun 0,5 mm, 60° flat fan, with 90° Extension, length 200 mm	97716	Fine Spray Gun 0,5 mm, 60° flat fan, with 90° Extension, length 400 mm	97717	Fine Spray Gun 0,5 mm, 60° flat fan, with 90° Extension, length 600 mm	97719	Fine Spray Gun 0,5 mm, 60° flat fan, with 45° Extension, length 600 mm	97720	Fine Spray Gun 0,5 mm, 15° ring fan, with Extension, length 600 mm	97721	Accessories		Sealing and Repair Kit for Fine Spray Gun	97730	Centrifugal Separator with sinter filter and manual drain valve	97714	Nozzles		Nozzle Change Set 0,3 mm, consists of Nozzle 0,3 mm, Needle 0,3 mm, Air Cap 60° flat fan	8991506	Nozzle Change Set 0,5 mm, consists of Nozzle 0,5 mm, Needle 0,5 mm, Air Cap 60° flat fan	8991507	Nozzle Change Set 0,8 mm, consists of Nozzle 0,8 mm, Needle 0,8 mm, Air Cap 60° flat fan	8991508
Spray Guns	Item #																														
HVLP Fine Spray Gun 0,5 mm, 60° flat fan, incl. Protecting Ring and 3 m Duo Tube	97725																														
Fine Spray Guns with Extensions																															
Fine Spray Gun 0,5 mm, 60° flat fan, with 90° Extension, length 200 mm	97716																														
Fine Spray Gun 0,5 mm, 60° flat fan, with 90° Extension, length 400 mm	97717																														
Fine Spray Gun 0,5 mm, 60° flat fan, with 90° Extension, length 600 mm	97719																														
Fine Spray Gun 0,5 mm, 60° flat fan, with 45° Extension, length 600 mm	97720																														
Fine Spray Gun 0,5 mm, 15° ring fan, with Extension, length 600 mm	97721																														
Accessories																															
Sealing and Repair Kit for Fine Spray Gun	97730																														
Centrifugal Separator with sinter filter and manual drain valve	97714																														
Nozzles																															
Nozzle Change Set 0,3 mm, consists of Nozzle 0,3 mm, Needle 0,3 mm, Air Cap 60° flat fan	8991506																														
Nozzle Change Set 0,5 mm, consists of Nozzle 0,5 mm, Needle 0,5 mm, Air Cap 60° flat fan	8991507																														
Nozzle Change Set 0,8 mm, consists of Nozzle 0,8 mm, Needle 0,8 mm, Air Cap 60° flat fan	8991508																														

<p>Item 97701</p>	<p>Spray Cart</p>
	<p>This spray cart is designed to easily transport the 10 l / 30 l pressure pot 97712/97713 to the relevant place of application.</p> <p>Features:</p> <ul style="list-style-type: none"> • Robust stainless steel design. • 4 wheels at wide distance to avoid flip over. • Ergonomic height. • Stowaway case to store spraygun after use. • Sprayguns can be locked safely to avoid misuse.

Application Overview

Loctite® Frekote® Mould Release Agent		1-STEP	44-NC	55-NC	700-NC	770-NC	800-NC	810-NC	C-200	C-300	Frewax	FRP-NC	HMT	HMT-2	R-110	R-120	R-150	R-180	R-500	S-50E	WOLO		
Polymer	Epoxy (Non Gel-Coat)		●	●	●	●			●	●													
	Polyester Gel-Coat – glossy	●			▲	▲					▲	●										●	
	Polyester Gel-Coat – matt		●	▲																			
	Polyester Gel-Coat / Resin – low shrink	▲		▲	●	●						▲										▲	
	Polyamide (PA / Nylon)		●	▲	▲	▲			●	●													
	Polyester (Non Gel-Coat)		▲	▲	▲	●						▲											
	Polyethylene (PE)		▲	▲	▲	●			●	●													
	Polypropylene (PP)		▲	▲	▲	●			●	●													
Vinyl Ester		▲	▲	●	●																		
Compound	Butyl															●	●	●	●				
	EPDM															▲	●	●	▲				
	HNBR																	●	●				
	Natural													●		●	●	●	●				
	Neoprene														▲	▲	▲	●	●				
	Nitrile														▲	▲	▲	●	●				
	Silicone																▲	▲	▲		●		
	Thermoplastic Urethane (TPU)																●	●	▲				
	Vamac																▲	▲	▲				
Viton															▲	▲	▲	▲					
Process	Cast Polymer / Solid Surface	▲	▲	▲	▲	▲					▲	●										●	
	Compression / Transfer / Vacuum Bagging		●	●	●	●			●	●					●	●	●	●	●	●	●	●	
	Filament Winding				▲	●																	
	Hand Lay up / Spray up	●	▲	▲	▲	▲					▲	●										●	
	Injection Moulding															▲	▲	●	●	▲	●	●	
	Rotational Moulding					●			●	●													
	Rubber-to-Metal Bonding															●	●	●	●	●	▲		
	Tyre Treads															▲	●	●	▲				

● Highly Recommended ▲ Recommended

Trouble Shooting Guide

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

Product List / Order Information

Loctite® Frekote®	Description	Pack Size	No/ Ctn	Order No.	Page
1-STEP	Release Agent	0.5 ltr Can	1	123456	6-7
		1 ltr Can	1		
		5 ltr Jerry Can	1		
		25 ltr Pail	1		
44-NC	Release Agent	0.5 ltr Can	1	123456	4-5 8-9
		1 ltr Can	1		
		5 ltr Jerry Can	1		
		25 ltr Pail	1		
55-NC	Release Agent	12.8 oz Aerosol	12	123456	4-5
		0.5 ltr Can	1		
		1 ltr Can	1		
		5 ltr Jerry Can	1		
700-NC	Release Agent	12.8 oz Aerosol	12	123456	4-5
		0.5 ltr Can	1		
		1 ltr Can	1		
		5 ltr Jerry Can	1		
770-NC	Release Agent	12.8 oz Aerosol	12	123456	4-5 6-7 8-9
		0.5 ltr Can	1		
		1 ltr Can	1		
		5 ltr Jerry Can	1		
800-NC	Release Agent	12.8 oz Aerosol	12	123456	10-11
		0.5 ltr Can	1		
		1 ltr Can	1		
		5 ltr Jerry Can	1		
810-NC	Release Agent	12.8 oz Aerosol	12	123456	10-11
		0.5 ltr Can	1		
		1 ltr Can	1		
		5 ltr Jerry Can	1		
B-15	Mould Sealer	0.5 ltr Can	4	123456	4-5 8-9
		1 ltr Can	4		
		5 ltr Jerry Can	1		
C-200	Release Agent	5 ltr Jerry Can	1	123456	4-5 8-9
		20 (2x10) ltr Jerry Can	1		
C-300	Release Agent	5 ltr Jerry Can	1	123456	4-5 6-7 8-9
		20 (2x10) ltr Jerry Can	1		
		210 ltr Drum	1		
FMS	Mould Sealer	0.5 ltr Can	1	123456	6-7
		1 ltr Can	1		
		5 ltr Jerry Can	1		
Frewax	Release Agent	0.5 ltr Can	1	123456	6-7
		1 ltr Can	1		
		5 ltr Jerry Can	1		
FRP-NC	Release Agent	0.5 ltr Can	1	123456	6-7
		1 ltr Can	1		
		5 ltr Jerry Can	1		
HMT	Release Agent	5 ltr Jerry Can	1	123456	10-11
		25 ltr Pail	1		
HMT-2	Release Agent	12.8 oz Aerosol	12	123456	10-11
		0.5 ltr Can	1		
		1 ltr Can	1		
		5 ltr Jerry Can	1		

Equipment No.	Description	No/ Ctn	Order No.	Page
97701	Spray Cart with integrated Pneumatics for 10 and 30 l Pressure Pots 97712/97713	1	123456	12-13
97706	Pressure Pot 3 litre with integrated pneumatics	1	123456	12-13
97707	Pressure Pot 5 litre with integrated pneumatics	1	123456	12-13
97708	Pneumatics for 10 and 30 l Pressure Pots 97712/97713, when used as stand-alone units	1	123456	12-13
97712	Pressure Pot 10 litre without pneumatics for use with Spray Cart 97701	1	123456	12-13
97713	Pressure Pot 30 litre without pneumatics for use with Spray Cart 97701	1	123456	12-13
97714	Centrifugal Separator with sinter filter and manual drain valve	1	123456	12-13
97716	Finespray Gun, 0.5 mm nozzle, 60° flat fan, with 90° extension, length 200 mm	1	123456	12-13
97717	Finespray Gun, 0.5 mm nozzle, 60° flat fan, with 90° extension, length 400 mm	1	123456	12-13
97719	Finespray Gun, 0.5 mm nozzle, 60° flat fan, with 90° extension, length 600 mm	1	123456	12-13
97720	Finespray Gun, 0.5 mm nozzle, 60° flat fan, with 45° extension, length 600 mm	1	123456	12-13
97721	Finespray Gun, 0.5 mm nozzle, 15° ring fan, with extension, length 600 mm	1	123456	12-13
97725	HVLP Finespray Gun, 0.5 mm nozzle, 60° flat fan, incl. Protecting Ring and 3 m Duo Tube	1	123456	12-13
97730	Sealing and Repair Kit for HVLP Finespray Gun 97715/97725	1	123456	12-13
97740	HVLP Spray Gun, 0.5 mm nozzle	1	123456	12-13
97760	HVLP Spray Gun, 0.8 mm nozzle	1	123456	12-13
8991506	Nozzle Change Set, consists of nozzle 0.3 mm	1	123456	12-13
8991507	Nozzle Change Set, consists of nozzle 0.5 mm	1	123456	12-13
8991508	Nozzle Change Set, consists of nozzle 0.8 mm	1	123456	12-13

Technical Support – If you require information or advice, Henkel Technologies has engineers and technical personnel trained to provide on-site technical assistance for the evaluation of Loctite® Frekote® mould release products, process recommendations, or application troubleshooting. Henkel Technologies also has in-house analytical capabilities to assist customers in the chemical evaluation of materials, perform surface analysis evaluations, or simulate process conditions. Henkel Technologies recognises that partnering with manufacturers and sharing expertise is critical to the successful selection of the right mould release product.



Fifty years of success and commitment to research and development has made Henkel Technologies one of the world's leading global players, with a depth and diversity of product solutions that is second to none.

Henkel Technologies operates worldwide in markets as diverse as electronics, automotive, aerospace, machine building and medical devices, as well as many fields of general industry. The Loctite® Frekote® range offering multiple release and no contaminating transfer formulas is part of an extensive range of high-performance adhesives and sealants designed for industrial use. This range includes anaerobic, cyanoacrylate, UV- and visible light-curing, speciality Silicone and Epoxy adhesives. In addition to chemical specialty products, Henkel Technologies offers standard and custom-built dispensing and application equipment.

Our products exemplify our market-led approach of quickly responding to customers' needs. They are the living proof that we listen and respond to our customers' and the market's needs. And they're just a part of our portfolio of success – a success based on leadership, technology and innovation. Our products, developed for use in a wide variety of industries, are also sold through distributors, particularly industrial distributors and automotive parts dealers. That's why our local distributor network is equally important, with the knowledge and capability to quickly and efficiently deliver the right products for your application. Henkel Technologies sets high standards for its distributors and works closely with them to ensure they can supply the products you need – on time, every time.

In over 80 countries worldwide Henkel technology products – designed and manufactured to the highest standards – ensure that our customers remain ahead of their needs and on top of their game.

For more product informations, please visit www.loctite.com where you can download catalogues, data sheets, technical papers and application examples.

Visit our Web Site, at: www.loctite.com

The data contained herein are intended as reference only. Please contact your local Henkel Loctite Technical Support Group for assistance and recommendation on specifications for these products.

Henkel Loctite Adhesives Limited

Watchmead · Welwyn Garden City
Hertfordshire AL7 1JB
Phone: 01707 358800 · Fax 01707 358900



Team McLaren Mercedes
OFFICIAL SUPPLIER

"Loctite" is a registered trademark of Henkel Loctite Corporation.