



# DiamondKote™

**MOLD RELEASE AGENTS FOR RUBBER, COMPOSITE,  
AND URETHANE MOLDING APPLICATIONS**

**FORMULATED TO ENSURE SMOOTH RELEASE OF FINISHED PARTS,  
REDUCING SCRAP AND OPTIMIZING OVERALL PRODUCTION EFFICIENCY**

# INNOVATIVE FORMULATIONS & CUSTOMIZED SOLUTIONS



**DELIVERING EFFICIENCY  
AND QUALITY IMPROVEMENT**



## DiamondKote™

Franklynn DiamondKote™ mold release agents provide much more than release of molded parts from mold surfaces: they're a tool designed for your specific needs - permanent, semi-permanent, or sacrificial performance - on all types of rubber elastomers, urethanes, fiberglass, and other resins. Our expert chemists create innovative mold release technologies to optimize your production process and minimize scrap. Release agents customized to your process will:



Improve product finish and appearance, lowering scrap rates and improving throughput



Save time and money by reducing downtime cost of cleaning labor and material



Reduce release transfer to molded products, improving post-molding paint or bonding steps



Achieve desired cosmetic appearance (gloss, matte, overall feel, etc.)

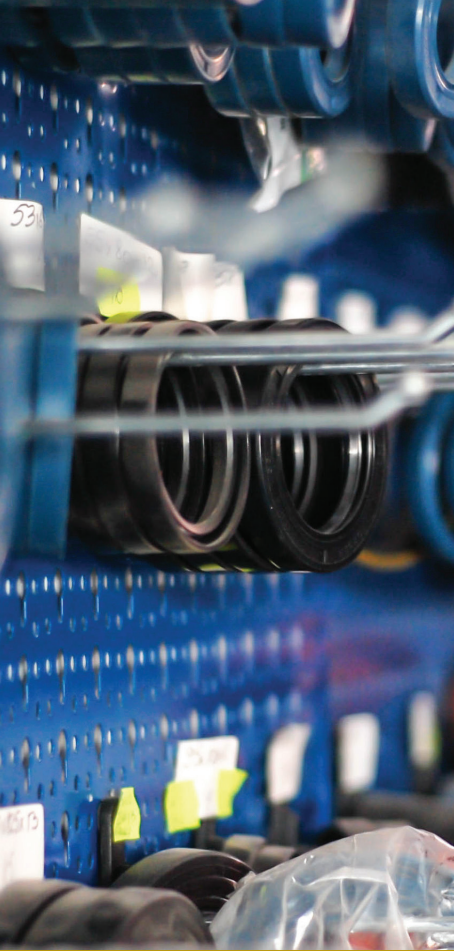


### Mold Release Types:

- Sacrificial
- Semi-Permanent
- Permanent
- Water-Based
- Solvent-Based

To optimize performance, Franklynn DiamondKote™ chemists continuously analyze and refine formulations. Testing capabilities include:

- Full Wet Chemical Testing
- FT-IR with Transmission, Reflection, and ATR
- IR and Visible Microscopy
- UV-VIS Spectroscopy
- UV-VIS Fluorescence
- SEM and EDX
- Microwave Solids Analysis
- GC-MS
- HPLC
- Atomic Absorption
- Thermal Analysis (including TGA, DSC, and DMA)
- Mechanical Testing (peel, adhesion, tensile, flexure, fatigue - Instron is a sister ITW company)
- Submicron Particle Size Analysis
- Karl Fischer Analysis
- Viscometry (disc, cone-plate)
- Melt Indexer
- Fineness of Grind
- Abrasion Testing
- Coefficient of Friction (static and dynamic)



## Franklynn DiamondKote™ for General Rubber Molding

### WATER-BASED PRODUCTS



#### DKW-4185

Premium, semi-permanent release agent that can be used on a variety of sulfur-cured elastomers; offers excellent life cycle, cleaner molds, and reduced scrap rates



#### DKW-157

Semi-permanent release agent for epoxy, phenolic, and composite manufacturing; improves productivity through additional molding cycles between applications

#### DKW-71E

Stable, low-transfer formula delivers excellent release for all halobutyl compounds; commonly used in the pharmaceutical industry

#### DKW-4168

Highly versatile release agent can be used on a variety of peroxide-cured elastomers; offers excellent cycle life, cleaner molds, and reduced scrap rates

#### DKW-4070

Semi-permanent release agent designed for use in the molding of peroxide-cured elastomers such as silicone (polysiloxanes), EPDM, and FKM

#### DKW-4013A / DKW-4013D

Silicone-free, semi-permanent release agent designed for silicone and fluorosilicone elastomers

#### DKW-4237

Silicone-free formula developed for peroxide-cured compounds, excellent for FKM and other exotic compounds

### SOLVENT-BASED PRODUCTS

#### DKH-149

Versatile release agent for bonding natural rubber to metal in Noise Vibration Harshness (NVH) products

*All products available in 3 package sizes: 5 gallon pail, 55 gallon drum, and 330 gallon tote*



## Franklynn DiamondKote™ for Tire Molding

### WATER-BASED PRODUCTS



#### DKW-4550CL

Formulated for the molding of all types of rubber tires; delivers multiple molding cycles between applications



#### DKW-4650BL

Promotes release from tire bladders, reduces bladder buckling and extends bladder life; may be re-applied to a used bladder to promote release of green tires

#### DKW-4580CL

Formulated for the molding of all types of rubber tires including complex architecture tread designs; creates a superior slip-coating that allows for multiple cycles between reapplication

#### DKW-3178G3X

Designed to offer a high degree of mechanical slip and repeated excellent release of material

#### DKW-4655BL

Semi-permanent release agent designed to release tires from the curing bladder and maximize bladder life

*All products available in 3 package sizes: 5 gallon pail, 55 gallon drum, and 330 gallon tote*



## Franklynn DiamondKote™ for Mold Cleaning

### SOLVENT-BASED PRODUCTS



#### FRANKLEEN #23





General purpose, mold cleaner designed to cling to mold surfaces, promoting a cleaner working environment and avoiding spills and waste from runoff



#### FRANKLEEN #1

General purpose, mold cleaner; water-thin formula penetrates deep mold cavities for improved cleaning

*All products available in 2 package sizes: 5 gallon pail and 55 gallon drum*

INDUSTRY	CATEGORY	MATERIAL TYPES	VALUE		
 <b>AUTOMOTIVE</b>	<b>NOISE VIBRATION HARSHNESS</b>	<ul style="list-style-type: none"> <li>AEM / AECM</li> <li>Butyl</li> <li>FKM</li> <li>HNBR</li> <li>Neoprene</li> <li>Nitrile</li> </ul>	<ul style="list-style-type: none"> <li>NR</li> <li>Peroxide and sulfur cured EPDM</li> <li>SBR</li> <li>Viton®</li> </ul>	<ul style="list-style-type: none"> <li>Increases number of cycles between applications</li> <li>Reduces scrap rate</li> <li>Increases tool longevity</li> </ul>	<ul style="list-style-type: none"> <li>Controls transfer minimizes problems with secondary operations including post-adhesion and post-painting</li> </ul>
	<b>BRAKE PADS</b>	<ul style="list-style-type: none"> <li>NBR</li> </ul>		<ul style="list-style-type: none"> <li>Increases number of cycles between applications</li> </ul>	<ul style="list-style-type: none"> <li>Cleaner molds</li> <li>Easier release</li> </ul>
	<b>POWER TRANSMISSION BELTS</b>	<ul style="list-style-type: none"> <li>CR</li> <li>EPDM</li> <li>NBR</li> </ul>	<ul style="list-style-type: none"> <li>NR</li> <li>SBR</li> </ul>	<ul style="list-style-type: none"> <li>Improves semi-permanency for more cycles between touch-ups</li> <li>Fewer applications</li> </ul>	<ul style="list-style-type: none"> <li>Less frequent mold cleaning</li> <li>Better release performance</li> </ul>
	<b>SOLID AND PNEUMATIC TIRES</b>	<ul style="list-style-type: none"> <li>NR</li> <li>SBR</li> </ul>		<ul style="list-style-type: none"> <li>Reduces mold release consumption</li> <li>Improves release, optimizing production process</li> <li>Increases cavity lube sidewall-bladder life</li> </ul>	<ul style="list-style-type: none"> <li>Increases cycles between touchups, reducing the amount of material used</li> <li>Tool longevity increases, cleaning expense minimized</li> </ul>
	<b>AUTO INTERIOR COMPONENTS</b>	<ul style="list-style-type: none"> <li>Aliphatic and Aeromatic Polyurethane</li> </ul>		<ul style="list-style-type: none"> <li>Improves release delivers superior performance in manufacturing process</li> </ul>	<ul style="list-style-type: none"> <li>Provides appropriate gloss and appearance</li> <li>Limits transfer for better adhesion</li> </ul>
 <b>SEALS &amp; GASKETS</b>	<b>AUTOMOTIVE, OIL AND GAS MANUFACTURING</b>	<ul style="list-style-type: none"> <li>AEM / AECM</li> <li>All sulfur and peroxide compounds</li> <li>Bisphenol A-cured fluoropolymers</li> </ul>	<ul style="list-style-type: none"> <li>EPDM</li> <li>FKM (Vamac, Aflas, Viton)</li> <li>HNBR</li> <li>Neoprene</li> <li>Nitrile</li> <li>Silicone</li> </ul>	<ul style="list-style-type: none"> <li>Increases number of cycles between applications</li> <li>Reduces mold release consumption</li> <li>Reduces transfer to parts for better post bonding</li> </ul>	<ul style="list-style-type: none"> <li>Less build-up on the molds, reducing downtime for cleaning</li> <li>Lower scrap rates</li> <li>Improves part cosmetics</li> </ul>
	<b>GOLF BALL CORE AND COVER</b>	<ul style="list-style-type: none"> <li>Butyl</li> <li>NR</li> <li>SBR</li> </ul>	<ul style="list-style-type: none"> <li>Surlyn</li> <li>Urethane</li> </ul>	<ul style="list-style-type: none"> <li>Water-based, non-flammable, environmentally friendly formulations</li> <li>Controls transfer to molded part</li> </ul>	<ul style="list-style-type: none"> <li>Excellent release-ease lasting multiple cycles per single application</li> <li>Improves part cosmetics, reduces scrap rates</li> </ul>
 <b>SPORTING GOODS &amp; ATHLETIC APPAREL</b>	<b>SHOE COMPONENTS</b>	<ul style="list-style-type: none"> <li>EVA</li> <li>Polyurethane</li> </ul>		<ul style="list-style-type: none"> <li>Improves release delivers superior performance in manufacturing process</li> </ul>	<ul style="list-style-type: none"> <li>Provides appropriate gloss and appearance</li> <li>Limits transfer for better adhesion</li> </ul>
	<b>FIBERGLASS BOARD AND INSULATION PRODUCTS</b>	<ul style="list-style-type: none"> <li>Acrylic</li> </ul>		<ul style="list-style-type: none"> <li>Reduces downtime and increases productivity</li> <li>Reduces mold release consumption</li> <li>Improves finished product quality</li> </ul>	<ul style="list-style-type: none"> <li>Eliminates unpleasant odors</li> <li>Controls transfer minimizes problems with secondary operations including post-adhesion and post-painting</li> </ul>
 <b>BUILDING &amp; CAPITAL EQUIPMENT</b>	<b>AIRPLANE CABIN INTERIORS/ WIND BLADES</b>	<ul style="list-style-type: none"> <li>Composites</li> <li>Epoxic</li> <li>Phenolic</li> </ul>		<ul style="list-style-type: none"> <li>Increases number of cycles compared to solvent-based releases</li> <li>Improves productivity by greatly reducing downtime</li> </ul>	<ul style="list-style-type: none"> <li>Eliminates need for additional products (wax &amp; sealants) during molding process</li> <li>Tools remain very clean</li> </ul>
	<b>TEST TUBE STOPPERS</b>	<ul style="list-style-type: none"> <li>Bromobutyl Rubber Compounds</li> <li>Halobutyl</li> </ul>		<ul style="list-style-type: none"> <li>Increases number of cycles between applications</li> <li>Easier flash removal</li> </ul>	<ul style="list-style-type: none"> <li>Leaves less residue on molds/ tooling for a cleaner finished product and workplace</li> </ul>

ABBREVIATION	MATERIAL NAME
AEM / AECM.....	Ethylene Acrylic Rubber
CFRP / CRP / CFRT.....	Carbon-Fiber Composite
CR .....	Neoprene
EPDM..	Ethylene Dropyene Diene Monomer Rubber
EVA.....	Ethylene-Vinyl Acetate

ABBREVIATION	MATERIAL NAME
FKM .....	Fluorine Kautschuk Material
FRP / GRP .....	Fiberglass Composite
HNBR .....	Hydrogenated Nitrile Butadiene Rubber
IIR .....	Butyl Rubber
NBR .....	Nitrile Rubber

ABBREVIATION	MATERIAL NAME
NR .....	Natural Rubber
PF.....	Phenol Formaldehyde Resins
PUR / PU.....	Polyurethane
SBR .....	Synthetic Rubber



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