

## Mold Release Product Data

FORMULATION	MAXIMUM TEMP° F	COMMENTS
<b>1. Paste Waxes:</b>		
RAM Mold Sealer 306-B	180	Soft-compounded wax, easy-buffing, without silicones. Excellent for cultured marble use.
<b>2. Other Compounds:</b>		
*RAM Cyclease 87-X95	200	Thin-bodied liquid; fast-drying wax suspension.
RAM GS-3	570	Dispersion of discrete fluorocarbon particles.
*RAM Garalease 915	350	Solvent-base cellulosic film-former; spray application
*RAM Mold Release 225 (Aerosol available)	500	Resin-base compound; heat cure desirable and suggested.
*RAM Mold Release 225 (Blue)	500	Resin-base compound; heat cure desirable and suggested. Blue In color
RAM Mold Release 125	500	water-alcohol based release agent for polyester and epoxy
*RAM Molgard	275	Internal resin additive for soft metal molds
RAM Molgard X	275	Internal resin additive for hard metal molds
*RAM Plastilease 334	500	Multi-purpose, inorganic wax formulation
*RAM Plastilease 512-B	350	Water-soluble film-forming PVA solution, green color
*RAM Spraywax 60-X5	180	Liquid wax formulation; fast-drying and easy buffing

**Aerosols:** To handle almost every release agent challenge in plastics laminating and rubber goods manufacture, the following compounds are offered in convenience of aerosol containers, supplied twelve 16-0z net weight cans per shipping case. All aerosols utilize newly developed non-fluorocarbon propellant systems.

FORMULATION	COMMENTS
RAM Mold Release 225	See description given above on this versatile agent
RAM GS-3	Modified fluorocarbon dry lubricant dispersion

In most cases, the critical task of release agent selection will be quickly accomplished via reference to the tabulated data in this quick-reference guide. Choice of a suitable, user-proved release compound is determined by relating type of resin in use to mold type and cure conditions. This newly-revised edition of the plastic industry's original and basic release agent selection chart lists only the RAM in-stock formulations; many additional custom compounds are carried in RAM Chemicals' extensive formulary, as an extra resource for individually troublesome aspects of the molding cycle. **Ram Mold Release Guide**

RESIN MOLD SURFACE	PLASTER	PLASTIC	SOFT METAL	HARD METAL	MATCHED DIE MOLDS
<b>Gel Coast and Polyesters:</b> Room Temperature Cure	Mold Prep* Plastilease 512-B Garalease 915	Mold Prep* Plastilease 512-B Garalease 915 Cyclease 87-X95	Cyclease* Plastilease 512-B Garalease 915	Cyclease* Plastilease 512-B Garalease 915	
Heat Cure	Garalease 915	Garalease 915	Mold Release 225	Mold Release 225	Mold Release 225
"Internal Additive			Molgard	Molgard X	87-X92 Molgard X
<b>Epoxyes:</b> Room Temperature Cure**	Garalease 915 Plastilease 512-B Mold Sealer 306 Plastilease 334	Garalease 915 Plastilease 512-B Mold Sealer 306 Plastilease 334	Garalease 915 Mold Release 225 Plastilease 334	RAM GS-3 Mold Release 225 Plastilease 334	RAM GS-3 Mold Release 225 Plastilease 334
<b>Phenolics:</b> Cure Temperature Below 300* F.*	Mold Release 225 Plastilease 334	Mold Release 225 Plastilease 334	RAM GS-3 Mold Release 225 Plastilease 334	RAM GS-3 Mold Release 225 Plastilease 335	RAM GS-3 Mild Release 225 Plastilease 334
<b>Polycarbonates:</b>		Plastilease 250	RAM GS-3	RAM GS-3	RAM GS-3
<b>Rubber, Other Elastomers And Polysulfones:</b>		Plastilease 250	Plastilease 250 Mold Release 225	Plastilease 250 Mold Release 225	Mold Release 225
<b>Urethane Foams:</b>	Plastilease 560 Garalease 915 Mold Release 225	Plastilease 560 Garalease 915 Mold Release 225	Plastilease 560 Garalease 915	Plastilease 560 Garalease 915	Plastilease 560
<b>Urethane Elastomers:</b>	Plastilease 560 Garalease 915	Plastilease 560 Garalease 915	Plastilease 560	Plastilease 560	Plastilease 560

\*Mold prep is the process of burnishing, sealing, and waxing a mold as the final steps prior to putting a mold into production. We recommend our Cyclease system for superior mold preparation, enhanced mold life, and increased production.

\*\*For heat-cure epoxyes and higher temperature phenolics, RAM Mold Release 225, RAM-Part 87-X76 or RAM Plastilease 334 is suggested. For filament winding applications where good clean release *plus* lubricity is required, a 1:1 by weight mix of RAM Mold Release 225 and RAM Plastilease 334 gives excellent results, aiding greatly to overcome sliding friction in pulling finished parts from low-draft mandrels.

All stock releases are available for immediate shipment. For further information and suggested application methods, request RAM Release Agents bulletin and literature on mold preparation techniques. Also available are RAM Chemicals brochures on mold release trouble shooting, and RAM's Cyclease products for superior mold preparation.

RAM Chemicals can help you with your special formulation, custom compounding or unusual molding requirements. Our experienced laboratory staff is dedicated to the resolution of unusual surface chemistry problems involving the release interface.

For more than 40 years, RAM Products have been synonymous with quality, and in the forefront of FRP technical development.

#### **Mold Fabrication**

When specifying top-grade tooling gel coats, remember you can't do better than RAM Red Tooling and Black Tooling for the toughness, gloss retention and high abrasion resistance you need for high quality mold making.

#### **Sealing**

RAM Mold Sealer 306B alleviates any minute surface porosity and grooms the mold for waxing to assure you of a void-free continuous finish and a bright, smooth mold

#### **Waxing**

Cyclease moldwax 60-X5 is a spray wax, perfect for extended, trouble-free production runs. Just a bit of moisture gives you an even, polished gloss.

#### **Release Agents**

Once a mold has been "conditioned," regular utilization of RAM Cyclease 87-X95 reduces or eliminates the necessity for time-consuming re-application of past wax. Cyclease 87-X95 is a light-duty liquid created especially to enhance and broaden past wax attributes and performance. It applies easily, dries fast, quickly polishes to a high gloss, and gives you lightning fast and super clean mold parting action.

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#### **Warranty**

Important: RAM warrants that this product conforms to the Product Description contained herein. No other warranty is expressed or implied, including warranties of merchantability or fitness for a particular Purpose. No statements or recommendations contained herein are to be construed as inducements to infringe Any relevant patent, now or hereafter in existence. RAM neither assumes nor authorizes any representative to Assume any obligation or liability other than those expressly set forth herein. RAM shall not be liable for Incidental, consequential or other damages resulting from user negligence, breach of warranty, strict Liability or any other theory, arising out of the use or handling of this product.

#### **Material Safety Data Sheets**

Material Safety Data sheets for RAM products mentioned in this publication are available on request. For materials mentioned which are not RAM products, appropriate industrial hygiene and other safety precautions Recommended by the manufacturer of the material should be followed.