

## ReleaSys™ TM1 Tire & Bladder Release Agent

### Description:

ReleaSys™ TM1 is a high-performance, high cross-linking water-based release system. Utilization of a proprietary polymeric backbone, this coating binds tenaciously to surfaces providing a highly durable coating with excellent surface slip and ease of release. Part of a new generation of reactive polysiloxane chemistry, ReleaSys™ TM1 promotes excellent release, slip, and air bleed performance. Application can be to the green tire or directly to the bladder. Benefits of this product include:

- Exceptional release ease and friction reduction
- Multi-release from a single application
- No fillers; Optimized coating weight
- Increased bladder life
- Improves quality and consistency of rubber parts
- Minimized buildup and fouling

### Release Agent Applications:

ReleaSys™ TM1 is formulated to provide unmatched utility in green tire and bladder molding applications.

### Recommended Application Procedure:

1. The application should be clean and contaminate free. Ideal application it to a warmed surface to accelerate the curing time.
2. ReleaSys™ TM1 can be applied by wiping, brushing or spray equipment that can produce fine atomization and deposit a uniform, thin film.

**Note:** New bladders can be treated with 2 coats with a full cure between each coat. Uniform, even application is critical.

3. Initial Cure Method: Cure times vary with application thickness and temperature. The curing process is dramatically accelerated with the application of any heating above 50 °C. Temperatures below 50°C are non-ideal.
  - a. Cure times at 50 - 70 °C require approximately 20 - 30 minutes
  - b. Cure times at 75 - 100 °C approximately 20 - 25 minutes
  - c. Cure time above 100 °C are approximately 15 - 20 minutes

4. When the product is applied to green tire, transfer will occur, applying a coating to the bladder surface.

### Reapplication:

1. When release becomes hesitant, immediately reapply one coat of ReleaSys™ TM1 in the same manner as described previously. Spot touch-ups can also be done on known high wear or strained areas.
2. **Reapplication cure time is significantly less than initial. Follow-up coatings require only 10 minutes maximum and can be as short as 1 minute depending on surface temperature.**

### Physical Properties:

Primary Polymer:.....Crosslinking Polysiloxane  
Appearance:.....White Emulsion  
Odor:.....None  
Specific Gravity:.....1.0 g/mL @ 25°C  
Flash Point:.....None

### Storage and Handling:

ReleaSys™ TM1 should be stored in a well-ventilated area which is cool and dry. Do not expose to freezing temperatures. Prior to use, container should be lightly agitated; avoid high shear/high rpm mixing.

ReleaSys™ TM1 should not be used at temperatures above 290 °C or near open flames. Chemical breakdown will occur which will result in the generation of toxic fumes. When spraying, avoid inhalation of mist and exposure to skin. Always wash hands after handling.

### Shelf-Life

ReleaSys™ TM1 has a shelf life of 12 months from the date of shipment.

### ReleaSys™ Product Line:

Miller-Stephenson offers a selection of high performance water-based, semi-permanent release systems to meet your mold process needs. All variants of the ReleaSys™ Series will deliver higher productivity, lower rejection rates, and higher quality products.

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