



# Product Information

[www.miller-stephenson.com](http://www.miller-stephenson.com)

## ReleaSys HTX Boron Nitride Industrial Coating

### Description

Miller-Stephenson has developed a high-temperature industrial coating designed to provide unmatched release agent / dry lubricant properties utilizing fine particle hexagonal boron nitride in a nonflammable, bulk formulation. Utilizing our advanced chemistry and next-generation binder system, ReleaSys HTX develops an ultra-durable, thin-film coating on any metallic or ceramic surface. This coating imparts a low coefficient of friction, high lubricity, and high adhesion ceramic film to surfaces. The cured coating offers exceptional release properties, even at 1000°C, and complete protection from aggressive environments. The inert and non-wetting nature of the boron nitride particles make it an excellent surface coating for molds used to produce castings of light metals such as magnesium and for coating surfaces in glass making operations. ReleaSys HTX can inhibit corrosion and chemical attack in metal forming, glass-making and sintering processes, thereby increasing die life and improving product quality. Benefits include:

- High Temperature Stability up to 1000°C in air; 1800°C in Inert Atmospheres
- Exception durability and surface adhesion
- Low Dielectric Constant and Loss
- Excellent Thermal conductivity
- Low coefficient of friction
- 100% nonflammable formulation

### Applications

- Mold Release for High Temperature and Difficult to Mold Polymers and Composites
- Mold release for Casting Metals
- Mold Dressing for Powder Metal Processing
- Surface Coating for High Temperature Surfaces
- Barrier Coating for Aggressive Environmental processes
- Specialty Lubricant for Drawing and Working Metals
- High and Low Temperature Dry Film Lubricant

### Recommended Application Procedure

1. Clean surface thoroughly. Mechanical cleaning such as bead media blasting or steel wool, followed by chemical cleaning, provides the best surface for application of ReleaSys HTX. Removal of all previous contaminants is critical.
2. Agitate bulk prior and during use to maintain a uniform dispersion. Apply approximately 10-12 inches away from surface and apply a light coat.

3. ***Make sure to shake can frequently during use, failure to do so will effect coating thickness and final performance.***
4. Material will apply wet and transparent but will dry to a fine-white coat. Continue to shake can frequently during use.
5. A second light coating can be applied but is not always necessary. The second coat should not be applied until the first coat has fully dried.
6. Allow water to dry completely. Molding can be performed without heat curing the coating. ***For optimal adhesion, durability, and elimination of transfer, heat curing is strongly recommended.***

### Heat Curing Procedure

1. To heat cure, bring the coating up to a minimum of 500°F and hold for 15-25 minutes. Cool back to room temperature. Curing can be performed at temperatures higher than 500°F and may be beneficial in some applications.
2. **For Glass Molding:** Product can be applied to unheated molds. Application to preheated mold
3. (>160° F) is ideal. After coating, heat the mold surface to a minimum of 450-500°F and hold for 20-60 minutes prior to pre-heating for glass introduction. This can be done during the furnace warm-up period. Allow the mold to cool to room temperature. A full heat cycle can be used to cure, heating to the maximum molding temperature of the substrate then cooling to room temperature. For some glass molding geometries and compositions this is necessary.

### Physical Properties:

Primary Polymer:.....Discrete Ceramic particle  
Appearance:.....White particle suspension  
Odor:.....Slight  
Specific Gravity:.....1.3 g/mL @ 25°C

**Safety Data Sheet (SDS) is available upon request.**

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