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## Technical Bulletin AF-03

### AF-200™ Permanent Anti-Fog Coating

#### Description

**AF-200™** is a permanent anti-fog coating applied in-house to plastic substrates. This coating causes condensing moisture from the air to spread in an even clear film over the plastic surface without forming droplets. Consequently, the surface remains free of fog, even under very humid conditions which would normally cause fogging of surfaces. This permanent coating eliminates the need for temporary anti-fog sprays, wipes, and solutions.

#### Applications

**AF-200™ Anti-Fog** coated plastics can be used wherever surface fogging is a concern. The application produces a tough crosslinked matrix. Ideal applications include goggles, visors, eyewear, instrument gauges, camera lenses, face shields, environmental enclosures, and other transparent plastic surfaces.

#### Properties

**Coating Adhesion (ASTM D3359)** - No coating removal in standard crosshatch tape pull adhesion testing.

**Excellent clarity and gloss** - No loss of light transmission or increase in haze due to the coating.

**Good hardness and scratch resistance** - Substantial improvement in the mar resistance of the coated plastic's surface.

**Anti-Fog Performance** - Plastic surfaces coated with **AF-200 Anti-Fog** resist fogging under a variety of conditions. The performance of the coating has been evaluated using the following exposure tests:

**Breath Fog Test** - No fog formation after direct breathing on the coated surface.

**Shower Test** - No fog formation after 45-minute exposure to the warm moist air of a hot shower.

**Hot Water Test** - No fog formation after exposure to the vapor from a vessel containing 145°F water (> 60 seconds).

#### Cleaning Instructions

The **AF-200™ Anti-Fog** coating is hydrophilic and functions by spreading a thin layer of condensed water in a uniform film over the surface of the plastic. Consequently, the surface must be clean or the contaminants can affect the functionality of the coating. If the surface has been subjected to contaminating conditions, observe the following cleaning instructions to maintain the function and integrity of the coating:

Clean with water. Dry with a clean, soft microfiber cloth – **Do not** rub dry with coarse paper towels or soiled towels as this can scratch the surface and reduce the efficiency.

Do not use cleaning agents containing an abrasive.

**Note:** Coating can become softened if immersed in water for long periods of time and care should be taken not to damage the film when in this softened state. Continuous extremely wet conditions should be evaluated for effectiveness over time. AF-200 should be evaluated in freezing applications as water droplets are in the frozen state and cannot readily spread until thawed.

#### Product Availability

**AF-200™ Anti-Fog** coating can be applied to many clear, tinted, and mirrored plastics including acrylics, polycarbonate, PETG, PET, PVC, and polystyrene. It can be applied on one or both sides or it can be combined with SciCron Technologies **Mar-Con® 550** mar resistant hard coat for a two-side coated product. Standard sheet size is 48" x 96". Other sizes, including oversize sheets, available upon request. **AF-200™ Anti-Fog coating can also be custom coated on customer supplied sheets, parts, and assemblies.**

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"Permanent" as used in this document is not intended as a guarantee of durability in any particular application. It is used to distinguish SciCron Technologies' anti-fog coating from topical anti-fog coatings which must be reapplied on a regular basis. The information and statements contained herein are believed to be accurate, however, users should perform their own testing and verification to determine the durability, applicability, and suitability of the products for their own purposes. **NOTHING CONTAINED HEREIN SHALL BE CONSTRUED AS A REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE ARE HEREBY EXCLUDED.**

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