



TECHNICAL DATA SHEET
Anti-fog Coating 680JC
NMP free; Non-flammable

General Description

This anti-fog and condensation control coating is a heat stable, non-yellowing waterborne single part melamine coating solution imparting anti-fog and scratch resistant properties to plastic substrates. The 2098-680 JC anti-fog coating is a resin-water-solvent mixture producing a permanent anti-fog film on plastic substrates post heat cure.

Physical properties

| Property (Procedure Code) | Temp | Unit | Approved Spec. Range |
|--|--------------|-------------|-------------------------------|
| Appearance (Visual) | RT | NA | Clear to Slightly Hazy |
| Color (Visual) | RT | NA | Colorless |
| pH (PHA 1.1) | 25 °C | NA | 9.0 – 11.0 |
| Non-volatiles (DSC 1.0) | 125°C | % | 10.0 -12.0 |
| Specific Gravity (SPG 1.0) | 25°C | g/ml | 1.005-1.015 |
| Viscosity (BKV 1.0) (#1 Spindle @ 60 rpm) | 25°C | cps | 15-50 |

Coating methods and Applications

The anti-fog coating can be roll, dip, curtain or HVLP spray coated. As process variables differ, a patch test should be made to determine solvent tolerance in presence of heat per each substrate. For sheeting applications the recommended dry coating thickness is .05 to 1.0 mils (10 to 25 microns). Condensation sheeting effect is indifferent to coating thickness. If the substrate is contaminated with grease, water or oils, this can destroy the anti-fog adherence properties. For pieces handled prior to coating we recommend the surface be cleaned with an isopropanol.



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Viscosity dilution with isopropanol or distilled water is not recommended. Theoretical coverage range is 750-1200 sq. ft. per gallon at 12 micron thickness. In HVLP spray applications use 8-10 psi typical of automotive paints. If the spray fan of coating shows spotty coverage increase air pressure incrementally until an even coating.

Shelf life of unopened container: 6 months.

High humidity will not affect the performance of the anti-fog coating however, care should be exercised to not contaminate the solution with other reactive additives.

Coating cure

Coating performance is reduced, if not properly cured. Adhesion to substrate, crazing and anti-fog properties can be affected. We recommend a thermal cure of 125C for 30 mins. Performance is improved if coating can air dry for a few minutes before any thermal dry cycle.

The following are approximate time and temperatures. With variance in thermal curing systems we recommend running a time and temperature trial to determine optimal condition.

| Temperature | Time |
|-------------|------------------------------|
| 110C – 230F | 1 Hour (2 hours is optimal) |
| 125C – 257F | 30 Mins (2 hours is optimal) |
| 140C – 302F | 10 Mins (1 hour is optimal) |

Chemical resistance

A properly cured anti-fog coating will have abrasion resistance to “typical impacts” and most household cleaners and cleaning methods. Though a hard coating when dry, this hydrophilic coating when hydrated will soften and exhibit reduced abrasion resistance. The 680 JC coating will cyclically dry and rewet so abrasion resistance will vary during these cycles. The anti-fog coating should not be exposed to strong acids or oxidizing materials.

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Clean up

Best to do equipment clean up before the coating solidifies. Coating residual can be cleaned with water or IPA isopropyl alcohol. Adhere to local ordinances before disposal in wastewater systems. For spray application systems we recommend cleanup with MEK, MIBK or similar solvent. Check with the spray equipment supplier for recommended cleaning solvent

Safety precaution

Please refer to MSDS

