



FLUOROPOLYMER - TECHNICAL SUMMARY

General Specifications

Alesta® AR500 architectural grade fluoropolymer powder coatings are formulated to meet the stringent exterior performance standards of the architectural industry including AAMA 2605 according to the American Architectural Manufacturers Association (AAMA). AR500 coatings are based on the thermosetting fluoropolymer technology which provides the highest level of color and gloss retention available.

Typical Performance Properties

Physical performance results were measured using chromate treated aluminum panels with 2.0-3.0 mils of coating. Alesta® AR500 coatings are easy to apply and are like other powder coatings but must be applied over AAMA recognized surface pretreats.

Typical Film Thickness

2.0-3.0 mils

Cure Schedules

F-cure

15 minutes at 425°F

20 minutes at 400°F

Overbake Stability

Depending on color and gloss, slight discoloration may occur upon exposure to infrared wave lengths. In convection ovens, discoloration may occur in light or white products with lower gloss ranges. Therefore, cure times should be tightly controlled to ensure coating color and gloss consistency. Individual product testing is required.

Adhesion (ASTM D-3359, Method B)

Using pressure sensitive tape, no coating is lifted or removed between 1 mm cross-hatch scribes.

Pencil Hardness (ASTM D-3363)

Using Eagle Turquoise pencil leads, surface hardness ranges from 3H to 4H.

Impact Resistance (Modified ASTM D-2794)

AAMA 2605 section 7.5 - No removal of film from substrate when the panel is deformed to 3mm +/- 0.3mm.

Flexibility, Mandrel (Modified ASTM D-522)

The film surface withstands a 180° bend over a 5/8" diameter with no loss of adhesion or surface cracking.

Abrasion Resistance (Modified ASTM D-968)

Falling sand method. Abrasion coefficient value minimum 40 L/mil per AAMA 2605 section 7.6.2.

**These results are typical of products formulated to comply with AAMA 2605 specifications.*



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Corrosion and Chemical Performance Properties

Salt Spray Resistance (ASTM B-117)

Scribed chromate treated aluminum panels in a 5% salt fog at 95°F and 100% relative humidity; exhibit no blistering or adhesion loss after 4000 hours of exposure per AAMA 2605 - 7.8.2.

Humidity Resistance

No formation of blisters after 4000 hours at 100°F and 100% relative humidity.

Chemical and Solvent Resistance

Chemical resistant testing were done in accordance with AAMA 2605 section 7.7.

AAMA 7. 7.1 Muriatic Acid Resistance 15-Minute Spot Test

No blistering and no visual change in appearance when examined by the unaided eye.

AAMA 7.7.2 Mortar Resistance 24 hour Pat Test

Mortar dislodges easily from the painted surface with no loss of adhesion or visual change in appearance when examined by the unaided eye.

AAMA 7. 7.3 Nitric Acid Resistance 30-Minute Vapor Test

Not more than 5ΔE units of color change, calculated in accordance with ASTM D-2294.

AAMA 7. 7.4 Detergent Resistance 72 Hour Immersion

No loss of adhesion of film to the metal. No blistering and no significant visual change in appearance when examined by the unaided eye.

AAMA 7.7.5 Window Cleaner Resistance 24 Hour Spot test

No blistering or noticeable change in appearance when examined by the unaided eye and no removal of film under the tape within or outside the cross-hatched area.

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