



ARCHITECTURAL POWDER COATING GUIDE

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Steel Architectural Powder Coating Guide

Steel Substrate Preparation for CRS and HRS...

(CRS - Cold Rolled Steel • HRS - Hot Rolled Steel)

- Remove all mill scale and rust.
- Pickle and Oil.
- Steel Bead Shot Blasting.
- Sand Blasting.
- Blasting with alternative media.
- Keep steel dry.
- Use manufacturing lubricants your powder coating pretreat process can remove.
- Remove scale from laser cutting processes.
- G90 galvanized substrate acceptable

Spray Wand Steel Pretreat Requirements for Architectural Powder Coating...

- Heated Alkaline (detergent) cleaner.
- Heated Iron Phosphate Conversion Coating.
- Rinse.
- Air or oven dry off.

Automated Steel Pretreat Requirement for Architectural Powder Coating....

- Stage 1 - Heated Alkaline Cleaner - 90 seconds.
- Stage 2 - City Water Rinse - 30 seconds.
- Stage 3 - Heated Iron Phosphate Conversion Coating 30 seconds.
- Stage 4 - City Water Rinse - 30 seconds.
- Stage 5 - Reverse Osmosis (Or DI) Water rinse - 30 seconds.
- Stage 6 - Sealer in R/O water - 30 seconds.
- Convection oven dry off - 5-10 minutes - 200 to 400 degrees.



ACHIEVE Long-Lasting Coatings with Proper Procedures



PREVENT Failed Coatings with Proper Procedures

Aluminum Architectural Powder Coating Guide

Aluminum Substrate Preparation...

- Avoid using aluminum with dark die marks.
- Avoid using aluminum with white rust or oxidation.
- Keep aluminum dry.
- Use manufacturing lubricants your powder coat pretreat process can remove.

Automated Aluminum Pretreat Requirement for Architectural Powder Coating...

- Stage 1 - Heated alkaline or acidic cleaner with fluoride - 90 seconds.
- Stage 2 - City water rinse - 30 seconds.
- Stage 3 - Reverse Osmosis (or DI) water rinse - 30 seconds.
- Stage 4 - Dried In Place (DIP) Sealer in R/O water - 30 seconds.
- Air knife to blow off water drops.
- 250 degree convection oven dry off for 6-10 minutes.

Architectural Powder Coating Guide for both Aluminum & Steel

Coating thickness requirements...

- AAMA 2603 1.5-3 mils.
- AAMA 2604 2-4 mils.
- AAMA 2605 2-4 mils.

Powder Coating Cure...

- Follow powder manufacturers recommended cure schedule.

Pretreatment Quality Control...

- Minimum twice per shift.
- Chemical stages titration checks.
- PH checks.
- Heated stages temperature check.
- Nozzle checks.
- Rinse water Total Dissolved Solids (TDS) checks.
- Screens and filters check.
- All checks logged, stored, and traceable to purchase orders.

Production Quality Control...

- Items to be checked on the first parts after a color change and every hour thereafter.
- Dry off oven temperature.
- Cure oven temperature.
- Pretreatment heated stages temperatures check.
- Cross hatch test.
- MEK cure test.
- Orange peel check.
- Color check.
- Aesthetic appearance check.
- Thickness check.
- All checks logged, stored, and traceable to a purchase order.

Prime Coat For Steel Only...

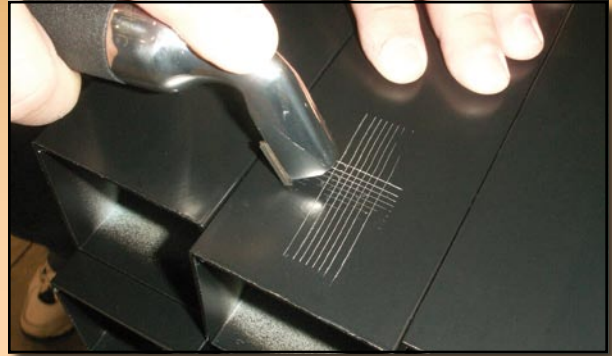
- Zinc rich powder coat primer (1 to 2 mils).
- Electrode position Coating (E-coat .75 mil).

Acceptable Architectural Coatings for Aluminum & Steel...

- Liquid Kynar based coatings.
- Super Durable Polyester TGIC Powder Coating (AAMA 2603).
- Premium Pigmented Super Durable Polyester TGIC Powder Coating (AAMA 2604).
- Fluorocarbon Polymer Powder Coatings. (AAMA 2605).

Unacceptable Architectural Coatings for Aluminum & Steel...

- Non-Kynar based liquid coatings.
- Electrode position Coating (E-Coat).
- Epoxy Powder Coating.
- Acrylic Powder Coating.
- Urethane Powder Coating.
- Hybrid Powder Coating.
- Polyester TGIC Powder Coating.



Quality Control - Crosshatch Test



Quality Control - Titration Test



Using unacceptable powder coating - results in fading, discolorization and chipping.

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