

In the table to the right you can see a comparison of the different type of finishes available within the architectural window industry. Peerless has taken a stance to provide the highest quality windows on the market. We have chosen to start providing powder coat finish on all of our windows.

Green technology is growing more advanced every day and is being driven by federal, state, and local governments. While anodize and liquid PVDF are good technologies, powder coat is a higher quality, greener finish option. LEED credits can also be awarded for using powder coated aluminum.



Anodize	Traditional Liquid	Powder Coat
Multi-Step process	Multiple coats needed for even coverage	Single coat
Oxide film	Soft coating, light weight finish	Hard coat provides resistance to scratch
0.4-0.7 mils	1.2 mils	1.9-3.14 mils
Less expensive material cost	Less expensive material cost	More expensive material cost
More expensive application cost	More expensive application process	Less expensive application process with vertical paint line
0% solvent content	Solvent content up to 65%	0% solvent content
VOC emission <2%	VOC emission up to 65%	VOC emission <2%
Class 1 Anodize	AAMA 2605 rating	AAMA 2605 rating
N/A	70% PVDF	Hyper Durable Fluorocarbon

*These are photos of anodize finish in the acceptable color range, there is a noticeable color difference which creates an eyesore.*



**Powder coat is a polymer resin system that is combined with curatives, pigments, leveling agents, flow modifiers, and other additives. Below are some benefits of powder coatings.**

- To be used on the exterior of commercial, landmark buildings where there is heavy traffic
- Hard coating provides resistance to scratch, chips, or rub marks
- Provides less handling damage
- No additional coatings needed
- Taber Abrasion Performance CS17-1000 cycles
- All solid colors and mica metallics
- 20 year standard warranty, 30 year extended warranty
- Cleaner manufacturing process with less VOC
- Over-spray can be reused
- Paint matching capabilities
- Matte finish available

*Europe has been using powder coat finish for 40+ years, and 75% of buildings are using powder coat for windows and doors.*

**We will be using Hyper Durable Fluorocarbon meeting either AAMA 2604 or 2605. The powder coat uses a fluoroethylene vinyl ether (FEVE) which is a clear plastic product that hardens to create a thick durable coating. Powder coat finish is thermoset meaning the chemical bond is irreversible which eliminates the risk of the product re-melting when heat is applied.**

**Traditional liquid coatings are Polyvinylidene Fluoride (PVDF) meeting either AAMA 2604 or 2605. PVDF is thermoplastic meaning its chemical bond is completely reversible. When heated thermoplastic material will soften and become more fluid with more heat.**



*Comparison of abrasion test results show liquid visibly has more wear.*

### Powder Coat Production

- Pretreated with double acid etch process
- Metal is grounded
- Spray gun creates an electrostatic charge that clings to the metal
- Metal gets baked
- While baking powder becomes free flowing and forms a “skin” around the object
- Powder becomes thermoset

### Powder Coat Cleaning

#### *Cleaning during the Manufacturing Process*

- No harsh chemicals are required
- Powder is easily cleaned with minimal waste
- Spray guns and paint booth are self cleaning
- Color changes take only a few minutes to perform

#### *Cleaning Powder Coat Surface*

- Carefully remove any loose deposits with a wet sponge.
- Use a soft brush (non-abrasive) or cloth, and a mild household detergent solution to remove dust, salt, and other deposits.
- Rinse off with clean fresh water.



**The application process of powder coated finish has improved tremendously with vertical powder coat lines. Our powder coat line is fully automated, faster, and more consistent than horizontal powder coat lines. The vertical powder coat line allows for up to 4x faster productivity.**