

FEVE vs. 70% PVDF Coatings

At RoofScreen we rely on powder coating to finish many of our aluminum products. The tough and versatile style of coating results in a finish that resists the corrosion, abrasion and color fading that traditional liquid coatings are susceptible to over time.

Architectural powder coatings that meet the highest performance requirements of AAMA 2605 are generally comprised of two different resin types: PVDF resin (Polyvinylidene Difluoride) or FEVE resin (Fluoroethylene Vinyl Ether).

The table below shows the performance and application characteristics of both 70% PVDF and FEVE-based finishes.

	70% PVDF	FEVE
AAMA SPEC	2605	2605
Coat Layers	Primer + Top Coat	One Coat
Gloss Range	20-35 @ 60°	5-85 @ 60°
Pencil Hardness	F min.	F min.
Dry Film Thickness	0.25 mils primer + 1.0 mil min. top coat	2.0 - 3.0 mils
Humidity Resistance	4,000 hrs.	4,000 hrs.
Salt Spray Resistance	4,000 hrs.	4,000 hrs.
Exterior Exposure	10 Years @ 45°, South Florida Maximum 5 ΔE fade Maximum 8 chalk	10 Years @ 45°, South Florida Maximum 5 ΔE fade Maximum 8 chalk

While FEVE and PVDF-based coatings are comparable in several key areas, FEVE powders offer notable advantages such as a simpler, safer application process and a wider range of gloss options while adhering to the same AAMA 2605 standards as PVDF coatings.

PVDF coatings require a primer and a top coat while FEVE coatings only need a single coat. This simplification streamlines and safens the FEVE application process by eliminating harmful chromium-based pretreatment chemicals and primers while also reducing labor hours.

Additionally, the gloss range of FEVE is significantly broader, spanning from 5 to 85 at a 60° angle, compared to the narrower range of 20 to 35 offered by PVDF. This allows for a greater variety of aesthetic finishes, from very matte to very glossy.

Both coatings are able to meet and exceed the AAMA 2605 specification and exhibit similar performance in pencil hardness, humidity resistance, salt spray resistance, and exterior exposure durability, with both maintaining resistance for up to 4,000 hours and enduring 10 years of exposure in South Florida conditions with a maximum of 5 ΔE fade and 8 chalk.