



**KEY-LINK™**  
FENCING & RAILING

# PROTECTING YOUR ALUMINUM



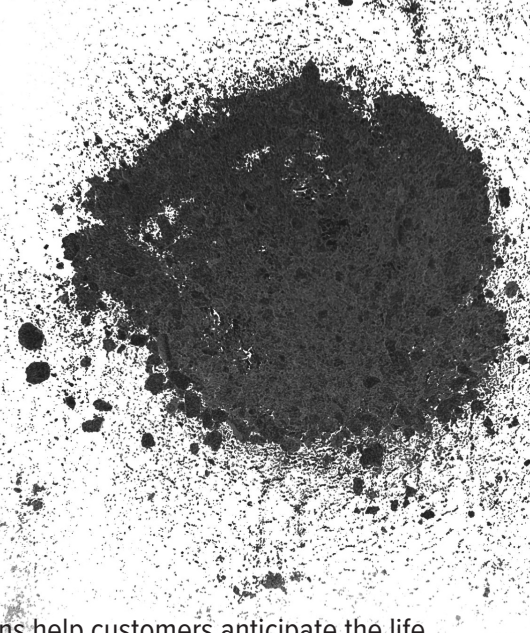
**AAMA STANDARDS AND KEY-LINK'S  
POWDER-COATING PROCESS**

# ALUMINUM POWDER COATINGS ARE NOT CREATED EQUAL

Ultraviolet rays, heat, rain, and humidity can all affect the look of outdoor aluminum. That's why powder coating is the modern solution to keeping aluminum fencing and railing from chalking and helping it to retain its original full color. Powder is electrostatically charged and sprayed onto a piece of aluminum, then heated until the powder melts and forms a protective film. This process results in both excellent protection and, unlike liquid coating, releases almost no harmful volatile organic compounds (VOCs) into the air.

The former American Architectural Manufacturers Association (AAMA), now known as the Fenestration and Glazing Industry Alliance (FGIA), has created a set of specifications by which to judge the quality of powder coating, and these specifications help customers anticipate the life of their product. No one wants to pay for a gorgeous aluminum railing only to have it deteriorate two or three years later. That's why Key-Link Fencing and Railing only uses coatings that meet AAMA specifications and that are suited to the environment where they'll be placed. It's also why Key-Link has sought and received certification from the experts at the Powder Coating Institute to ensure that we're providing long-lasting quality to our customers.

AAMA has specified three levels of coating: AAMA 2603, 2604, and 2605. Each coating is tested in extreme climates, including South Florida, the Arizona desert, and northern Minnesota, which means exposure to plenty of sun, snow, heat, and moisture. If AAMA says a 2604 coating retains acceptable color and gloss for five years, that means that coating spent five years baking in sunshine or getting covered in snow before it was evaluated against brand-new coating.



## AAMA 2603 Performance Coating

This is a low level of powder coating that works best for interior and ornamental applications, where UV rays and moisture are less of a concern. Outdoors, AAMA 2603 color retention and chalk resistance lasts for about 1 year, although slight color fading and chalking may occur.

## AAMA 2604 High Performance Coating

As the intermediate level of powder coating, AAMA 2604 is ideal for balconies, railings, and fencing, making it Key-Link's standard choice. After five years, AAMA 2604 maintains color retention of 5 Delta E units\* or less and about 30% gloss retention.

AAMA 2604 is the best specification level for Key-Link customers because it strikes a good balance between preventing deterioration over time and keeping our products affordable. This level of protection is also resistant to chipping, scratching and fading, which makes it ideal for outdoor use.

## AAMA 2605 Superior Performance Coating

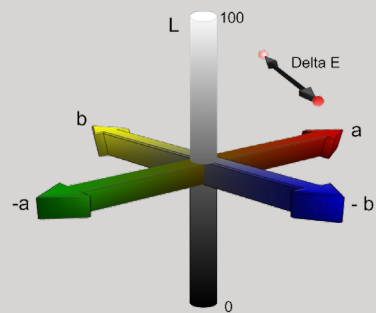
AAMA 2605 is the high-performance coating that's best for use on architectural products that require long-term protection. Products coated with AAMA 2605 are resistant to moisture, fading, and weathering for up to 10 years (gloss retention  $\geq$  30%, change of  $\leq$  5 Delta E units\*).

AAMA 2605 powder coating is offered through Key-Link as a special order and paired with epoxy coating as part of our Coastal Upgrade package.

### What is a Delta E Unit?

A unit of 1 Delta E means the colors being compared can barely be differentiated by the human eye.

On the other hand, a Delta E unit that falls between 3 – 6 means the colors are visibly different, but still an acceptable match in commercial reproduction.



# THE PROCESS

All of these steps ensure that Key-Link's railing and fencing receives a quality powder coating and will weather beautifully even in harsh conditions. Key-Link has received PCI-4000 Certification from the Powder Coating Institute, which is third-party confirmation that our process and coating meet the highest standards.



- ## 1 HANGING

To begin the process, raw parts are loaded onto hangers designed specifically for their shape. Hanging this way allows the entire surface area to receive coating as they move through the process on a conveyor.


- ## 2 WASHING


This stage is important any foreign substances on the raw aluminum could prevent the coating from adhering properly. Key-Link aluminum goes through a 5-stage pretreatment process to thoroughly remove dirt and all other residue to prep it for powder coating.


- ## 3 DRYING

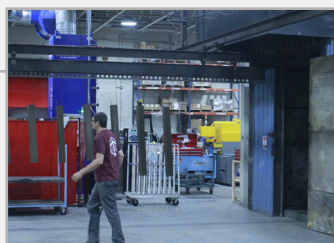
Wet aluminum cannot hold a coating, so the newly cleaned parts go into the oven to remove all the water and dry the raw material completely. Parts spend 2-4 minutes in the oven during this phase of the process.


- ## 4 COATING


This is where the actual coating is applied to the aluminum. The conveyor moves at a steady pace while the powder coating guns move in concerted motion up and down to evenly spray the aluminum and ensure a uniform coat. The angle and degree of the applicator tips changes depending on the size and shape of the profile being coated.


- ## 5 CURING

Once the piece has been completely coated, it goes back into the oven for 8-10 minutes for the curing. Here's where the coating is "baked" on for colorfastness and ongoing weather protection.


- ## 6 CHECKING

Once it's unloaded from the hangers, quality technicians check the newly powder-coated item against a set of standards to make sure the piece has a uniform color and finish. Technicians are also checking the powder coating throughout the day to make sure it's adhering properly and meets the stated AAMA standards.






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