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Laws and building and safety codes governing the design and use of Kawneer products, such as glazed entrance, window, and curtain wall products, vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

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Metric (SI) conversion figures are included throughout these details for reference. Numbers in parentheses ( ) are millimeters unless otherwise noted.

The following metric (SI ) units are found in these details:

- m – meter
- cm – centimeter
- mm – millimeter
- s – second
- Pa – pascal
- MPa – megapascal

Kawneer Company recognizes the Aluminum Association Designation System, DAF-45 as the standard of the industry. However, for maintenance of internal records, it has been necessary to assign two digit numbers for identification of our standard finishes. Kawneer offers the following standard anodic finishes.

### ANODIZED MATERIAL/FINISH CODE IDENTIFICATION

KAWNEER NO.	COLOR	PROCESS DESCRIPTION & MATERIAL	ALUMINUM ASSOCIATION SPECIFICATION	OTHER COMMENTS
<b>CLEAR ANODIZED FINISHES</b>				
#14	CLEAR	Anodized Aluminum	AA-M10C21A41	Architectural Class I (.7 mils minimum)
#17	CLEAR	Anodized Aluminum	AA-M10C21A31	Architectural Class II (.4 mils minimum)
<b>PERMANODIC® COLOR FINISHES</b>				
#29	BLACK	Anodized Aluminum	AA-M10C21A44	Architectural Class I (.7 mils minimum)
#40	DARK BRONZE	Anodized Aluminum	AA-M10C21A44	Architectural Class I (.7 mils minimum)

As anodizing is translucent, allowing the natural appearance of the metal to show through the coating, the finish is dependent on the aluminum composition as well as the anodizing process itself. Slight differences in the composition and anodizing process can have a significant effect on anodizing color. Given that some color variation will exist, Kawneer produces to a target color using AAMA 611 "Voluntary Specification for Anodized Architectural Aluminum" as a production guide for anodizing. This standard allows for a range of 5 DE (CMC) color difference. Each piece of anodized aluminum will be close to this target color but will not be an exact match.

### PROTECTIVE COATINGS

When aluminum is attached directly to steel or other metal, some coating should be applied to serve as a galvanic protection between dissimilar metals. The most common coating used is zinc primer. This can be any one of several formulations depending on the vehicle and solvent system. Zinc provides cathodic protection for coated metal. The primer should be applied to the steel or metal other than aluminum.

Where aluminum is applied in direct contact with concrete, plaster or other alkaline material, it is advisable to apply a coating to the aluminum to protect it from attack. Frequently, bituminous paint is specified for this purpose. This is an economical asphalt or coal tar derivative that has an excellent water resistance. It also has good resistance to materials such as salts, acids and alkalis that depend upon water as a carrier for ionization purposes. The low cost encourages users to put it on thick as an insulating barrier against galvanic action. Bituminous paint is readily dissolved by almost any organic solvent such as gasoline, lacquer thinner, turpentine, kerosene, etc. It is also influenced by temperature variations which cause it to become soft and sticky in heat, or become hard and brittle in cold weather.

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The use of painted finishes in the architectural aluminum industry has grown in popularity over the years. The principle reasons for this increased demand are the improvements in paint performance and expanded ranges of colors.

The American Architectural Manufacturers Association (AAMA) has developed three specifications to assist architects in the selection of an organic coating for a given application. This allows the specifier to choose the quality of product needed for any specific application.

**AAMA 2603** - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels. This specification is intended for paints that are applied to a wide variety of products including residential sliding doors, storm doors, sliding, and light commercial windows. This is recommended for use on interior architectural profiles only.

**AAMA 2604** - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Pigmented Organic Coatings on Aluminum Extrusions and Panels. This specification covers high performance organic coatings which are used on products produced by the Kawneer Company and other manufacturers of high quality products.

**AAMA 2605** - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Pigmented Organic Coatings on Aluminum Extrusions and Panels. This specification covers superior organic coatings which are used on products produced by the Kawneer Company and other manufacturers of high quality products.

There are some important differences between these three specifications.

ITEM	AAMA 2603	AAMA 2604	AAMA 2605
<b>Coating Thickness</b>	0.8 mils	1.2 mils	1.2 mils
<b>Pretreatment</b>	Multi-Stage Cleaning with Chemical Conversion Coating	Multi-Stage Cleaning with Chemical Conversion Coating	Multi-Stage Cleaning with Chrome Phosphate Conversion Coating 40 mg./ft <sup>2</sup> min.
<b>Abrasion Resistance</b>	No Requirements	Falling Sand Test - 20L/mil	Falling Sand Test - 50L/mil
<b>Chemical Resistance</b>	Muriatic Acid/Mortar Resistance Test	Muriatic Acid/Mortar Resistance/Nitric Acid Fumes Test	Muriatic Acid/Mortar Resistance/Nitric Acid Fumes Test
<b>Color Retention</b>	1 Year South Florida	5 Year South Florida (Max. 5ΔE)	10 Years South Florida (Max. 5ΔE)
<b>Gloss Retention</b>	No Requirements	Minimum of 30% after 5 Years South Florida	Minimum of 50% after 5 Years South Florida
<b>Corrosion Resistance</b>	1000 hr cyclic corrosion	1500 hr cyclic corrosion	2000 hr cyclic corrosion
<b>Chalking Resistance</b>	No Requirements	No more than #8	No more than #8 (#6 for Whites)
<b>Film Adhesion</b>	Dry Adhesion/Wet Adhesion	Dry Adhesion/Wet Adhesion Boiling Water Adhesion	Dry Adhesion/Wet Adhesion Boiling Water Adhesion
<b>Erosion Resistance</b>	No Requirements	Less than 10% after 5 Years South Florida	Less than 10% after 10 Years South Florida

Fluoropolymer paints that contain either Kynar 500 or Hylar 5000 resin consistently meet or exceed AAMA 2605 as well as the AAMA 2604 specification.

Fluoropolymer paints containing a minimum of 70% resin are available in a broad range of colors and types. Bright pigmented, exotic colors require 70% Kynar 500 or Hylar 5000. These paint systems are also available in multi-coat systems that utilize a barrier coat and/or a clear topcoat.

Some manufactures produce fluoropolymer coatings that use 50% Kynar or Hylar resin. These coatings meet or exceed the AAMA 2604 specification. Coatings that utilize 50% resin, typically are limited to pastel and earth-tone colors. These finishes can, however, contain material that produces a metallic appearance or greater abrasion resistance.

Certain polyester powder paints meet the AAMA 2604 specification. Due to their greater film thickness and abrasion resistance, these are well suited for high traffic entrances, storefronts, and all interior profiles.

Other types of paints such as polyesters, epoxies, acrylics, vinyls, urethanes, etc. may meet the AAMA 2603 specification, but fall short of both AAMA 2604 and 2605 specification, especially in the area of fade resistance. Therefore, Kawneer does not supply these types of coatings. When silicone is added to polyester, the paint may meet the AAMA 2604 specification.

The use of fluoropolymer coatings with a minimum pencil hardness of H-2H or AAMA 2604 compliant powder paint should be considered for entrance doors and door frames, as well as any adjacent materials subject to abusive wear.

Please refer to the Architectural Coatings color cards for information on standard color offerings. These colors are readily available and often provide a cost savings when compared to custom colors. A wide variety of custom colors are also available. Also, we will attempt to match any color submitted to us in order to provide the designer with flexibility of color selection. For assistance in selecting the appropriate finish and color for your specific project contact your local sales representative.

To locate your local sales representative visit our website at [www.kawneer.com](http://www.kawneer.com)

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	DOOR FINISH	DOOR FINISH	DOOR FINISH	DOOR FINISH
	#14 CLEAR ANODIZE #17 CLEAR ANODIZE	#40 DARK BRONZE	#29 BLACK	#22 PAINTED #27 PAINTED
<b>STANDARD HINGING OFFERINGS</b>				
<b>All other Entrances</b>	Powder Coat Painted (LS) Clear	Powder Coat Painted (90P) Black/Bronze	Powder Coat Painted (90P) Black/Bronze	Powder Coat Painted (90P) Black/Bronze
<b>Butt Hinges (Tuffline)</b>	Dull Chrome	Black Kalcolor	Black Kalcolor	Dull Chrome or Black Kalcolor Customer Specified
<b>Continuous Geared Hinge</b>	Clear Anodize	Bronze Anodized	Black Anodized	Customer Specified as Anodize
<b>Offset Pivots</b> K-Standard Top & Bottom	Powder Coat Paint in #17 Clear	Powder Coat Paint in #40 Bronze	Powder Coat Paint in #29 Black	Powder Coat Paint Clear, Bronze or Black Customer Specified
<b>Intermediate Offset Pivots</b> K-Standard  Ives / M-19	Powder Coat Paint in #17 Clear	Powder Coat Paint to Match Bronze Anodize	Powder Coat Paint to Match Black Anodize	Powder Coat Paint Clear, Bronze or Black Customer Specified
	Painted to Match Clear Anodized	Painted to match Dark Bronze Anodized	Painted to match Black Anodized	Customer Specified
<b>STANDARD LOCK/EXIT DEVICE OFFERINGS</b>				
<b>Exit Devices</b> Housings  Touch Bars/Crash Bars	Painted to Match Clear Anodized	Painted Dark Bronze	Painted Black	Painted Clear, Bronze, or Black
	Anodized, Clear	Anodized, Dark Bronze	Anodized, Black	Anodized, Customer Specified
<b>MS 1850, MS Hookbolt, Latch Lock, Electric Strike</b> Face Plates  Strikes	Clear	Dark Bronze	Black	Clear, Bronze or Black
	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
<b>STANDARD LOCK ACCESSORY OFFERINGS</b>				
<b>Cylinders, Thumbturns</b> Cylinder Ring  Scalp or Face  Thumbturn	Painted to Match Clear Anodized	Painted Dark Bronze	Painted Black	Painted Clear, Bronze, or Black
	Anodized, Clear	Anodized, Dark Bronze	Anodized, Black	Anodized, Customer Specified
	Anodized, Clear	Anodized, Dark Bronze	Anodized, Black	Anodized, Customer Specified
<b>Flushbolts</b>	Painted to Match Clear Anodized	Painted to Match Dark Bronze Anodized	Painted to Match Black Anodized	Painted Clear, Dark Bronze or Black
<b>Latch Handles/Paddles</b> AR4560  AR4565  AR4590	Painted to Match Clear Anodized	Painted Dark Bronze	Painted Black	Painted Clear, Bronze or Black
	Painted to Match Clear Anodized	Painted Dark Bronze	Painted Black	Painted Clear, Bronze or Black
	Anodized Satin Paddle with Black Body	Anodized Bronze Paddle with Black Body	Anodized Black Paddle with Black Body	Customer Specifies Paddle, (Clear or Satin) w/ Black Body
<b>Exit Indicators</b>	Painted to Match Clear Anodized	Painted to Match Dark Bronze Anodized	Painted to Match Dark Bronze Anodized	Painted Clear or Dark Bronze Customer Specified

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	#14 CLEAR ANODIZE #17 CLEAR ANODIZE	#40 DARK BRONZE	#29 BLACK	#22 PAINTED #27 PAINTED
<b>STANDARD PUSH/PULL OFFERINGS</b>				
<b>Architects Classic</b> CO-9 Pulls, CO-12 Pulls, CPN Pulls, CP Push Bars, CP-II Push Bars	Clear Anodized or Customer Specified*	Bronze Anodized or Customer Specified*	Black Anodized or Customer Specified*	Customer Specified*
<b>*AVAILABLE PUSH/PULL FINISH OFFERINGS</b>				
Finish Number	Finish Designation	CO-9 & CO-12 Pulls	CPN Pulls	CP & CP-II Push Bars
14	Class I Clear Anodized	x	x	x
29	Class I Black Anodized	x	x	x
40	Class I Bronze Anodized	x	x	x
44	Bronze - US 10B	x	N/A	x
45	Stainless Steel - US 32	x	N/A	x
46	Stainless Steel - US 32D	x	N/A	x
47	Bright Brass - PVD (US 3)	x	N/A	x
<b>PULL OFFERINGS (AA3200/AA3900 THERMAL SLIDING DOOR)</b>				
All Pull Handles	Customer Specified Available Finishes:		Satin Black - Painted Silver Grey - Painted Satin Nickel - Plated Bright Brass - Plated, PVD Coated	

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