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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
CLEAR ANODIZED FINISHES				
#14	CLEAR	Anodized Aluminum	AA-M10C21A41	Architectural Class I (.7 mils minimum)
#17	CLEAR	Anodized Aluminum	AA-M10C21A31	Architectural Class II (.4 mils minimum)
PERMANODIC® COLOR FINISHES				
#18	CHAMPAGNE	Anodized Aluminum	AA-M10C21A44	Architectural Class I (.7 mils minimum)
#26	LIGHT BRONZE	Anodized Aluminum	AA-M10C21A44	Architectural Class I (.7 mils minimum)
#28	MEDIUM BRONZE	Anodized Aluminum	AA-M10C21A44	Architectural Class I (.7 mils minimum)
#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.

INSULATING COATINGS

When aluminum is attached directly to steel or other metal, some coating should be applied to serve as a galvanic insulator 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.

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
Coating Thickness	0.8 mils	1.2 mils	1.2 mils
Pretreatment	None Required	Multi-Stage Cleaning with Chemical Conversion Coating	Multi-Stage Cleaning with Chrome Phosphate Conversion Coating 40 mg./ft ² min.
Abrasion Resistance	No Requirements	Falling Sand Test - 20L/mil	Falling Sand Test - 50L/mil
Chemical Resistance	Muriatic Acid/Mortar Resistance Test	Muriatic Acid/Mortar Resistance/Nitric Acid Fumes Test	Muriatic Acid/Mortar Resistance/Nitric Acid Fumes Test
Color Retention	1 Year South Florida	5 Year South Florida (Max. 5ΔE)	10 Years South Florida (Max. 5ΔE)
Gloss Retention	No Requirements	Minimum of 30% after 5 Years South Florida	Minimum of 50% after 5 Years South Florida
Corrosion Resistance	1500 hr. Humidity/Salt Spray	3000 hr. Humidity/Salt Spray	4000 hr. Humidity/Salt Spray
Chalking Resistance	No Requirements	No more than #8	No more than #8 (#6 for Whites)
Film Adhesion	Dry Adhesion/Wet Adhesion	Dry Adhesion/Wet Adhesion Boiling Water Adhesion	Dry Adhesion/Wet Adhesion Boiling Water Adhesion
Erosion Resistance	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. The use of either the Kynar 500 or the Hylar 5000 registered trademarks indicates that the paint incorporates a minimum of 70% resin by volume weight into the paint system.

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.

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

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, in some cases, just barely 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.

An additional reference guide is available from Kawneer Company on all finishes for architectural aluminum products entitled *Architectural Aluminum Finishes - Consider Your Options*.

To locate your local sales representative visit our website at www.kawneer.com

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	DOOR FINISH	DOOR FINISH	DOOR FINISH	DOOR FINISH
	#14 CLEAR ANODIZE #17 CLEAR ANODIZE	#26 LIGHT BRONZE #28 MEDIUM BRONZE #40 DARK BRONZE	#18 CHAMPAGNE #29 BLACK	#22 PAINTED #27 PAINTED
STANDARD HINGING OFFERINGS				
Butt Hinges (Tuffline)	Dull Chrome	Black Kalcolor	Black Kalcolor	Dull Chrome or Black Kalcolor Customer Specified
All other Entrances	Powder Coat Painted (LS) Clear	Powder Coat Painted (90P) Black/Bronze	Powder Coat Painted (90P) Black/Bronze	Powder Coat Painted (90P) Black/Bronze
Continuous Geared Hinge	Clear Anodize	Bronze Anodized	Black Anodized	Customer Specified as Anodize or Special Order as Painted to Match Door
Offset Pivots 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
Intermediate Offset Pivots K-Standard	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
Ives / M-19	Painted to Match Clear Anodized	Oil Rubbed to Match Light and Medium Bronze Anodized, Painted to match Dark Bronze Anodized	Oil Rubbed to Match Champagne Anodized, Painted to match Black Anodized	Customer Specified
STANDARD LOCK/EXIT DEVICE OFFERINGS				
Exit Devices Housings Touch Bars/Crash Bars Panic Guard™ Astragal	Painted to Match Clear Anodized Anodized, Clear Anodized, Clear	Painted Dark Bronze Anodized, Dark Bronze Anodized, Dark Bronze	Painted Black Anodized, Black Anodized, Black	Painted Clear, Bronze, or Black Anodized, Customer Specified Anodized, Customer Specified
MS 1850, MS Hookbolt, Latch Lock, Electric Strike Face Plates Strikes	Clear Stainless Steel	Dark Bronze Stainless Steel	Black Stainless Steel	Clear, Bronze or Black Stainless Steel
STANDARD LOCK ACCESSORY OFFERINGS				
Cylinders, Thumbturns Scalp or Face Cylinder Ring Thumbturn	Painted to Match Clear Anodized Anodized, Clear Anodized, Clear	Painted Dark Bronze Anodized, Dark Bronze Anodized, Dark Bronze	Painted Black Anodized, Black Anodized, Black	Painted Clear, Bronze, or Black Anodized, Customer Specified Anodized, Customer Specified
Flushbolts	Painted to Match Clear Anodized	Painted to Match Dark Bronze Anodized	Painted to Match Black Anodized	Painted Clear, Dark Bronze or Black
Latch Handles/Paddles AR4560 AR4565 AR4590	Satin Chrome US26D Satin Chrome US26D Anodized Satin Paddle with Black Body	Satin Chrome US26D Satin Chrome US26D Anodized Bronze Paddle with Black Body	Satin Chrome US26D Satin Chrome US26D Anodized Bronze Paddle with Black Body	Satin Chrome US26D Satin Chrome US26D Customer Specifies Paddle, (Clear or Satin) w/ Black Body
Exit Indicators	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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STANDARD PUSH/PULL OFFERINGS				
Architects Classic 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*
*AVAILABLE PUSH/PULL FINISH OFFERINGS				
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
PULL OFFERINGS (AA3200/AA3900 THERMAL SLIDING DOOR)				
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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