



BUILDING PRODUCTS

**ARCHITECTURAL
SPECIFICATIONS**

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EMCO Preserve™ Steel Siding, Shake & Shingle, Soffit, Fascia & Accessories

EMCO Weatheredwood™ Steel Siding, Soffit, Fascia & Accessories

General Architectural Specifications

EMCO Building Products steel siding and accessory products are produced in a wide range of colors and are manufactured for residential, new construction and commercial exteriors or as replacement siding for existing residential and commercial buildings. With steel siding from EMCO Building Products you get the strength of steel and the durability of our exclusive EMCO Preserve™ and EMCO Weatheredwood™ coatings. Because of their toughness and UV, chemical and heat resistance, it is guaranteed not to rust, crack, blister, chip, peel, flake or fade.

Materials

Steel siding and accessories are made from a nominal thickness of .0171 galvanized lock form quality coated steel complying with ASTM 653. Material is designed for markets requiring roll-form ability and as a result, the steel substrate is a low carbon alloy designed to take a 2T bend radius. Chemical and mechanical properties of the steel are detailed in addendum I. The ASTM standards have been approved for use by government agencies.

Manufacturing Specifications

A. Siding panels will contain weep hole spaces approximately every 12 3/4" in the leg of the panel bottom to allow condensation and water vapor to be released from the wall. Nailing hem of the panel shall be approximately 3/4" and contain nailing holes uniformly spaced approximately 1/8" from edge and approximately 1 1/4" on center to provide for expansion and contraction of siding wall.

B. 16" centervent soffit panels have a minimum calculated ventilated area (NFOA) of 6.30 square inches per lineal foot.

C. The coating applied to the substrate shall be a roll-coated paint system designed for use with roll-form machinery. Specific data regarding weatherability and other performance specifications are detailed below.

D. EMCO Building Products uses domestic steel sources using a minimum of 70% recycled steel.

Characteristics of Finish

The EMCO Preserve™ and EMCO Weatheredwood™ finish consists of the following layers permanently adhered to a galvanized steel core. Applied with a unique 10-step thermo bonding coil-coating process, EMCO Weatheredwood™ captures the texture and woodgraining of real cedar.

Galvanized Steel Core - corrosion resistant galvanized steel provides strength and durability. Pretreatment Layer - properly prepares the raw steel to receive the next three layers of finish. Corrosion-Inhibitive Primer Layer - applied to the solid steel core for corrosion protection. Water Resistant Backer Layer - applied to the back for added corrosion protection. EMCO Preserve™ and EMCO Weatheredwood™ - delivers a consistent color application ensuring an even siding color throughout your siding job. EMCO Weatheredwood™ - replicates the subtle woodgrain of natural cedar and ensures resistance to the elements. The paint system provides a finish that is resistant to harsh weather and carries a Limited Lifetime 35 Year Warranty against fading and chalking.

*Test result are detailed in Addendum II.

Addendum I

Chemical composition as detailed by ASTM A653		Typical physical properties of steel	
Carbon (max)	.015 percent	Tensile	45-60 max KSI
Manganese (max)	.600 percent	Yield	33 min KSI
Phosphorus (max)	.035 percent	Elongation	30-35 percent KSI
Sulfur	.040 percent		

(Physical properties can vary from batch to batch, but the above is average expected results.)

Addendum II

SPECIFICATIONS	TEST	RESULTS	RESULTS
ASTM D-523	60° Specular Gloss	10-80	Gardner 60° meter or equivalent
ASTM D-3363	Pencil Hardness	H - 3H	No break in the film
ASTM D-4145	Coating Flexibility	1 - T to 2 - T	No pick off with Scotch #610 tape
ASTM D-2794	Reverse Impact, 60-80 inch pounds	Passes	No pick off with Scotch #610 tape
ASTM G-154	Q.U.V. Weatherometer, 1000 hours	Passes	No objectionable chalking per ASTM D-4214, color change per ASTM D-2244 or blistering per ASTM D-714
ASTM D-2247	Humidity, 1000 hours at 100°F and 100% Humidity	Passes	Less than 5% No. 8 blisters
ASTM B-117	Salt Spray 1000 hours 5% Salt Solution	Passes	Less than 5% No. 6 blisters and Less than 1/8" creep or tape off from the scribe per ASTM D-1654
ASTM D-2244-89	45° So. Florida Exposure 35 years, color retention	Passes	No objectionable, color change
ASTM D-4214	45° So. Florida Exposure 35 years, chalk resistance	Passes	No objectionable, gloss loss or chalking

EMCO Integrity™ (PVC) Steel

General Architectural Specifications

EMCO Integrity™ siding is manufactured for residential/light commercial new construction exteriors or as replacement for existing residential/light commercial buildings. With EMCO Integrity™ you get the strength of steel plus a tough EMCO Integrity™ (PVC) coating. Because of its toughness and heat resistance, it is guaranteed not to rust, crack, blister, chip, peel or flake.

Materials

Steel siding and accessories are made from a nominal thickness of .0171 galvanized lock form quality EMCO Integrity™ (PVC) coated steel complying with ASTM 653. Material is designed for markets requiring roll-form ability and as a result, the steel substrate is a low carbon alloy designed to take a 2T bend radius. Chemical and mechanical properties of the steel are detailed in addendum 1. The ASTM standards have been approved for use by government agencies.

Manufacturing Specifications

- A.** Siding panels will contain weep hole spaces approximately every 12 3/4" in the leg of the panel bottom to allow condensation and water vapor to be released from the wall. Nailing hem of the panel shall be approximately 3/4" and contain nailing holes uniformly spaced approximately 1/8" from edge and approximately 1 1/4" on center to provide for expansion and contraction of siding wall.
- B.** EMCO uses domestic metal sources. Metal shall be cleaned before the application of pretreatment. Pretreatment is followed by the application of a striated coating on to metal. Immediately thereafter, material is bonded to the metal during a baking process before being wrapped for shipment.
- C.** The EMCO Integrity™ (PVC) coating applied to the substrate is a Polyvinyl Chloride dry film thickness 4 mills average, with a .02 of a mill primer dry film thickness. EMCO Integrity™ (PVC) product is a paint system designed for use with roll-form machinery. Specific data regarding weatherability and other performance specifications are detailed below.

Master Color Specifications

Approved color standards only will be used to verify color on coil runs. Standards to be verified semi-annually against paint vendors standards and will not deviate more than +/- .5 on any of the "L", "A" or "B" scales when measured against master color standards. Preshipment color analysis of coil against master color standards is required.

Addendum I

Chemical composition as detailed by ASTM A653		Typical physical properties of steel	
Carbon (max)	.015 percent	Tensile	45-60 max KSI
Manganese (max)	.600 percent	Yield	33 min KSI
Phosphorus (max)	.035 percent	Elongation	30-35 percent KSI
Sulfur	.040 percent		

(Physical properties can vary from batch to batch, but the above is average expected results.)

Characteristics of EMCO Integrity™ (PVC) Finish

(EMCO Integrity™ (PVC) coated surface meets or exceeds the following test results)

Integrity systems are based on high solids plastisol finished with PVC technology and a specially formulated corrosion resistant primer. Integrity gives Hot-Dipped Galvanized (HDG) steel, and zinc alloy substrates the extra corrosion resistance needed for metal buildings exposed to acid rain in industrial or chemical environments. Smooth, striated, or textured colors can be produced for metal building wall panels. Integrity coil coatings are designed to resist abrasion and protect against common physical abuse caused during transportation and installation. Integrity may be formed into building panels without micro-cracking on the ribs.

Substrate*

HDG Steel, Galfan® or Galvalume®

Accelerated Test Data

- Salt Spray 1,500 Hours: ASTM B 117..... Creep from scribe no more than 1/8" (3 mm), few No. 8 blisters
- Dry Heat 168 Hours, 180°F: (2T-Bend) No opening
- Humidity 100% RH 1,000 Hours: ASTM D 2247..... No field blisters
- Humidity 100% RH 2,000 Hours: ASTM D 2247..... No field blisters with minimum color change
- Water Immersion 168 Hours 100°F: ASTM D 870..... Color Change: Maximum of 5DE (Hunter) units
- Dew Cycle Weatherometer 100 Total Hours: ASTM D 3361... Chalk: Rating no less than No. 8

Physical Properties

- Gloss (60°): ASTM D 523 10 to 40
- Pencil Hardness: ASTM D 3363 B to H
- T-Bend: 0T to 1T, no loss of adhesion
- Crosshatch Adhesion: NCCA 4.2.10 No loss of adhesion
- Reverse Impact: ASTM D 2794 Steel: 3 x metal thickness in inch pounds, no loss of adhesion

EMCO Preserve™ Aluminum Soffit & Rain Carrying Systems

Premium Exterior Coil Coating System

The EMCO Preserve™ Aluminum finish provides excellent long term gloss retention and corrosion protection in severe environments. The EMCO Preserve™ Aluminum Series is formulated with a proprietary high durability resin for resistance to chalking and fading and contains high quality exterior grade and ceramic pigmentation to provide superior color stability.

The long term exterior weathering performance makes EMCO Preserve™ Aluminum your cost effective choice for residential and light commercial applications. Ideal for use on all building components especially Soffit and Rain Carrying Systems. The EMCO Preserve™ Aluminum coating features our special stain resistant resin that also improves scratch and metal marking resistance. EMCO Preserve™ Aluminum carries a limited lifetime warranty.

EMCO Preserve™ Aluminum Soffit & Rain Carrying Systems Cont'd.

Premium Exterior Coil Coating System

SPECIFICATIONS	TEST	TEST	RESULTS
ASTM D-523	60° Specular Gloss	10-80	Gardner 60° meter or equivalent
ASTM D-3363	Pencil Hardness	H - 2H	No break in the film
ASTM D-4145	Coating Flexibility	1 - T to 2 - T	No pick off with Scotch #610 tape
ASTM D-2794	Reverse Impact, 60-80 inch pounds	Passes	No pick off with Scotch #610 tape
ASTM G-53	Q.U.V. Weatherometer, 1000 hours	Passes	No objectionable chalking per ASTM D-4214, color change per ASTM D-2244 or blistering per ASTM D-714
ASTM D-2247	Humidity, 1000 hours at 100°F and 100% Humidity	Passes	Less than 5% NO. 8 blisters
ASTM B-117	Salt Spray 1000 hours 5% Salt Solution	Passes	Less than 5% No. 6 blisters and less than 1/8" creep or tape off from the scribe per ASTM D-1654
ASTM D-2244	45° So. Florida Exposure 25 years, color retention	Passes	No objectionable, color change
ASTM D-4214	45° So. Florida Exposure 25 years, chalk resistance	Passes	No objectionable, gloss loss or chalking
EMMAQUA	Accelerated Weathering 2,000,000 Langleys, Sun 10 Arizona exposure	Passes	No objectionable, gloss loss, chalking, color change or blistering

Materials

EMCO Preserve™ Aluminum products shall be made from 3105 or equivalent aluminum alloy and H-24, H-26 or equivalent hardness. Aluminum is a building product grade, tension leveled coil stock, specifically produced to be roll-formed in a consistent manner. All aluminum used for coating is produced in accordance to the Aluminum standards and data 2006 edition. The ASTM standards have been approved for use by government agencies. 16" centervent soffit panels have a minimum calculated ventilated area (NFOA) of 6.30 square inches per lineal foot.

Characteristics of EMCO Preserve™ Finish

The EMCO Preserve™ finish applied to the substrate has a dry film thickness of 0.80 - 1.30 mills. Accelerated and physical testing has indicated that this finish meets color, gloss, film thickness, and other specification guidelines as set by the American Society for Testing and Materials, and the National Coil Coaters Association.

Thickness

0.019" nominal - soffit & accessories

0.019" nominal - trim coil

0.032" nominal - gutter coil

- Meets performance requirements of AAMA 1402-86

PVC Aluminum Products

General Architectural Specifications

Materials

PVC Aluminum products shall be made from 3105 or equivalent aluminum alloy and H-24, H-26 or equivalent hardness. Aluminum is a building product grade, tension leveled coil stock, specifically produced to be roll-formed in a consistent manner. All aluminum used for coating is produced in accordance to the Aluminum standards and data 2006 edition. The ASTM standards have been approved for use by government agencies.

Thickness

0.019" nominal - trim coil PVC

The EMCO Integrity™ (PVC) coating applied to the substrate is a Polyvinyl Chloride dry film thickness 4 mills average, with a .02 of a mill primer dry film thickness. Specific data regarding weatherability and other performance specifications are detailed below.

Meets or Exceeds the Following Test Results

1. Pencil Hardness- F minimum, Eagle Turquoise. (NCCA 11-12)
2. Impact resistance- Coil coating withstands at least 1 1/2 times gauge of metal, both direct and indirect, without cracking or loss of adhesion. (NCCA 11-6)
3. Adhesion- No lifting of coating between 1/8" cross-hatch scribe lines using scotch tape either before or after impact. (NCCA 11-5)
4. Metal Marking Resistance- A black mark is not visible when a nickel is scraped across the painted product.
5. Humidity Resistance- No blistering, loss of adhesion, or discoloration after 1,000 hours exposure to 100% relative humidity ASTM D-714.
6. Salt Spray Resistance- Withstands a 5% salt solution for 1,000 hours. ASTM B-117.
7. Weathering Resistance- Withstands three years outdoor exposure in South Florida, at a 45 degree angle facing south and / or 5 years outdoor exposure in South Florida vertically facing south without checking, cracking, blistering, splitting or peeling; nor show chalking in excess of No. 6 ASTM D-4214 nor show fading in excess of 5 NBS units.