



ShadowClad™ panel system by Lenmak Exterior Innovations Inc. is a flush-wall panel concept with concealed fasteners & almost unlimited linear design flexibility. Strategic reflection of shadow and light creates the illusion of a building that moves & breathes as daylight fades. Automated manufacturing effectively manages waste while offering a multitude of width and depth options.

## Advantages

### Design

- Panels can be up to 26' in length; depths range from 1"-3"
- Horizontal, vertical, or a combination of both; it's your choice
- Custom trim profiles allows tailored design per address; no two buildings need to look alike
- Cut-to-length & slaying capability offers flexibility of panel lengths to suit any application
- Available reveal & stiffening rib features create texture & visual interest at no additional cost
- Easily integrates with surrounding exterior products & adapts to existing wall conditions

### Colour

- Available in 22ga & 24ga prefinished steel & galvalume
- 37 standard (SMP) colours, 24 premium (PVDF) colours, 6 Printex® (PVDF) colours, & 9 NaturClad™ (PVDF) colours
- Industry-leading high-durability finishes meet/exceed architectural standards for interior & exterior applications
- All colours offer matching prefinished steel trim in pre-programmed profiles for one-stop ordering, or available custom trim details to suit special circumstances

### Time

- Lean manufacturing & in-house master coil processing reduces lead time & minimum order size
- Proprietary robotic inventory management allows flexibility to add small quantities from sheeted inventory
- Online ordering system shortens processing time for quotes & orders, preventing costly errors & lost time on-site

### Price

- Available in standard & premium finishes & a variety of gauges to ensure best value for each specific project
- Produced to exact lengths to minimize on-site modification & waste created during installation

### Sustainability

- Panels contain a minimum of 30% recycled content; 24% post-consumer and 6.8% post-industrial (possibility for LEED credits 4.1 or 4.2)
- Local manufacturing and sustainable practices reduce carbon footprint
- Waste is nearly zero with lengths made to within 1/8"



# CASCADIA METALS LTD.

Cascadia Standard Colors  
SMP Prepainted Steel  
22ga - 30ga



POLAR WHITE



CAMBRIDGE WHITE



WHITE-WHITE



BONE WHITE



SURF WHITE



STONE GREY



REGENT GREY



PEBBLESTONE



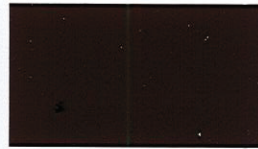
CHARCOAL



BLACK



METRO BROWN



COFFEE BROWN



DARK BROWN



CASHMERE



ANTIQUE LINEN



WICKER



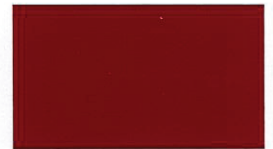
BRIARWOOD TAN



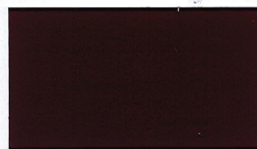
TAN



GOLD



TILE RED



BURGUNDY



DARK RED



BRIGHT RED



LABRADOR BLUE



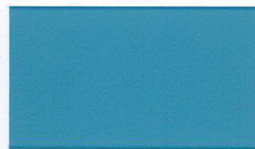
HERON BLUE



ROYAL BLUE



SLATE BLUE



SAPPHIRE BLUE



MIST GREEN



SAGE GREEN



TURQUOISE



PACIFIC TURQUOISE



DEEP WATER GREEN



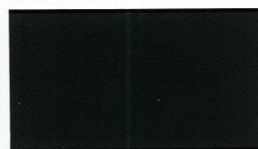
FOREST GREEN



SPRUCE GREEN



MELCHERS GREEN



DARK GREEN

Colors shown are representative of the actual colors but are limited by printing conditions. Actual pre-painted metal samples are available upon request. Additional sizes and colors may be available with a minimum order quantity. Please inquire with your Cascadia Metals Sales Representative.



# ALL THE SELECTION. ONE SOURCE.



PROPERTY	SMP COATING TEST METHOD	SMP COATING SPECIFICATION
Dry Film Thickness	ASTM D 1400-94 ASTM D 1005-95	0.75-1.85 Mil 0.90-1.15 Mil
Specular Gloss	ASTM D 523-89 @ 60°	20-35
Humidity Resistance	ASTM D 2247 (100% relative humidity @ 95°)	Passes 1,000 hrs.
Salt Spray	ASTM B 117 (5% salt spray @ 95°)	Passes 1,000 hrs.
Acid Pollutant Resistance	ASTM D 1308-87 (20% sulfuric acid 18 hrs., 10% muriatic acid 15 minutes)	No effect
Graffiti Resistance	Cleanability of Defaced Panels (spray paint, pens, etc.)	No effect
Abrasion Resistance	ASTM D 968-93 (to expose 5/32" of substrate)	25-40 Litres
Chalk Resistance	ASTM D 4214 (Florida Exposure @ 45° S)	Vertical: Rating not < 8 @ 10 yrs. Non-Vertical: Rating not < 7 @ 10 yrs.
Color Retention	ASTM 2244 - Hunter Units (Florida Exposure @ 45° S)	Vertical: Not > 5Δ Hunter Units @ 10 yrs. Non-Vertical: Not > 6Δ Hunter Units @ 10 yrs.
Adhesion	ASTM D 3359-95a (Reverse Impacted 1/16" crosshatched)	No adhesion loss
Pencil Hardness	ASTM D 3363	H-2H (NCCA II-12)
Reverse Impact	ASTM D 2794-93 (3,000 x inches of metal thickness)	Passes - No pick off with Scotch #610 tape
Flexibility T-Bend	ASTM D 4145-83 (No crack, no pick-off)	2T-4T bends, no loss of adhesion
Film Cure	ASTM D 5402 (≥ 100 double MEK rubs)	Passes
Fire Rating	E 84	Fuel contributed zero, Passes
Weatherometer	D 6695	Passes 3,000 hrs.
UV Exposure	D 4587	Passes 1,000 hrs.
Film Integrity		40 years - limited warranty

Hunter Units: a standard of key color scales and color values that are used by industry for color control. Oil Canning is a characteristic of metal roofing and not a cause for material rejection. Removable protective film is available upon request on all SMP sheet products. This protective film MUST be removed immediately after installation. Due to high mechanical properties, Grade 80 material is not suitable for drawing, pressing, or Pittsburg Lock Seam applications.

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# CASCADIA METALS

## Cascadia Premium Colors

**COOL** PVDF Prepainted Steel  
22ga x 48", Gr50, G90 & AZ50  
24ga x 48", Gr50, G90 & AZ50



**REGAL WHITE**  
SRI: 78



**PARCHMENT**  
SRI: 58



**SIERRA TAN**  
SRI: 58



**CHAMPAGNE METALLIC** ♦  
SRI: 49



**MOCHA**  
SRI: 35



**WEATHERED COPPER**  
SRI: 27



**BRONZE**  
SRI: 25



**DARK BRONZE**  
SRI: 27



**COPPER PENNY** ♦  
SRI: 42



**TERRA COTTA**  
SRI: 42



**COLONIAL RED**  
SRI: 34



**RETRO RED**  
SRI: 25



**HEMLOCK GREEN**  
SRI: 37



**FOREST GREEN**  
SRI: 30



**HARTFORD GREEN**  
SRI: 27



**BLACK**  
SRI: 24



**SILVER METALLIC** ♦  
SRI: 58



**TWILIGHT BLUE**  
SRI: 25



**REGAL BLUE**  
SRI: 25



**WEATHERED ZINC** ♦  
SRI: 40



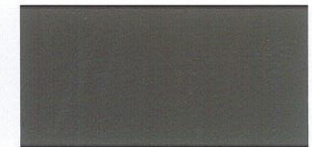
**OLD TOWN GRAY**  
SRI: 42



**OLD ZINC GRAY**  
SRI: 40



**SLATE GRAY**  
SRI: 30



**ZINC GRAY**  
SRI: 37

Colors shown are representative of the actual colors but are limited by printing conditions. Actual pre-painted metal samples are available upon request. Additional sizes and colors may be available with a minimum order quantity. Please inquire with your Cascadia Metals Sales Representative.

Special product requirements - including but not limited to specific recycled content, SRI, Buy American, or other - MUST be stated in writing as part of the request for quote. These special product requirements may impact Cascadia Metals' ability to satisfy the order.

♦ Metallic Colors: please be advised our Metallic Colors are batch sensitive and directional in nature. We strongly advise against mixing batches on any project.



# All the Selection, One Source.

PVDF paints are known throughout the steel industry for their exceptional gloss, color retention, and overall performance. Used by some of the most prominent architects throughout the world, PVDF pre-painted steel is utilized in a wide variety of residential, commercial, institutional, and industrial applications.

**Cascadia Metals' COOL PVDF** pre-painted steel products provide architects, designers, and building owners with a building product solution that is not only sustainable but satisfies both the aesthetics and performance expectations of even the most rigorous projects. Complete with a warranty, these products offer environmental benefits such as recyclability, durability, low maintenance, and potential energy savings when used in a roofing application. From roofing to wall panels to soffits and beyond, **Cascadia Metals' COOL PVDF** steel products are the right fit for your high-end architectural projects.

## PVDF TECHNICAL SPECIFICATIONS

PROPERTY	PVDF COATING TEST METHOD	PVDF COATING SPECIFICATION
Dry Film Thickness	ASTM D 1400-94 ASTM D 1005-95	0.75-1.85 Mil 0.90-1.15 Mil
Specular Gloss	ASTM D 523-89 @ 60°	20-35
Humidity Resistance	ASTM D 2247 (100% relative humidity @ 95°)	Passes 2,000 Hrs.
Salt Spray	ASTM B 117 (5% salt spray @ 95°)	Passes 1,000 Hrs. with < 5% #6 blisters
Acid Pollutant Resistance	ASTM D 1308-87 (20% sulfuric acid 18 hrs., 10% muriatic acid 15 minutes)	No effect
Graffiti Resistance	Cleanability of Defaced Panels (spray paint, pens, etc.)	No effect
Abrasion Resistance	ASTM D 968-93 (to expose 5/32" of substrate)	100 Liters
Chalk Resistance	ASTM D 4214 (Florida Exposure @ 45°S)	Rating not < 8 @ 20 yrs.
Color Retention	ASTM 2244 -Hunter Units (Florida Exposure @ 45°S)	Rating not > 5Δ Hunter Units @ 20 yrs.
Adhesion	ASTM D 3359-95a (Reverse Impacted 1/16" crosshatched)	No adhesion loss
Pencil Hardness	ASTM D 3363	HB-2H
Reverse Impact	ASTM D 2794-93 (3,000 x inches of metal thickness)	No cracking or loss of adhesion
Flexibility T-Bend	ASTM D 4145-83 (No crack, no pick-off)	0T-3T bends, no loss of adhesion
Mandrel	ASTM D 522-93A (180 bend around 1/8" mandrel)	No cracking

Hunter Units: a standard of key color scales and color values that are used by industry for color control. Oil Canning is a characteristic of metal roofing and not a cause for material rejection. Removable protective film is standard on all architectural sheet products. This protective film **MUST** be removed immediately after installation.

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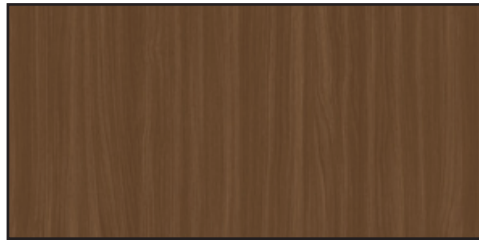
Knotty Pine



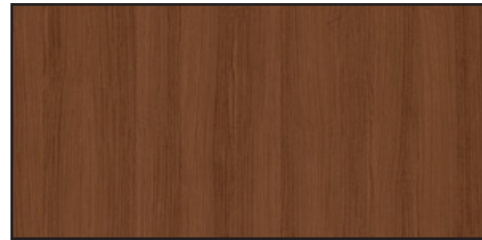
Autumn



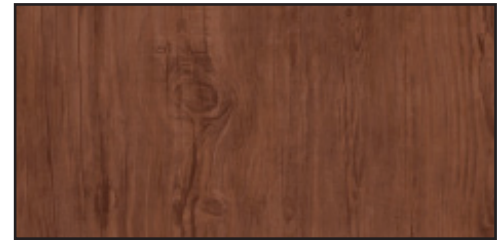
Saddle



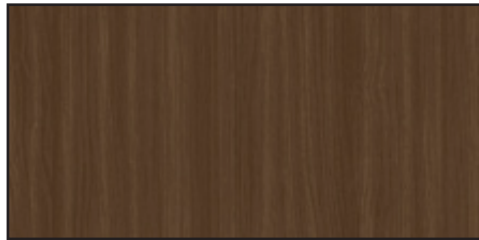
Acorn



Gunstock



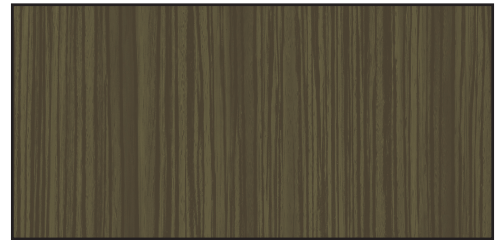
Frontier



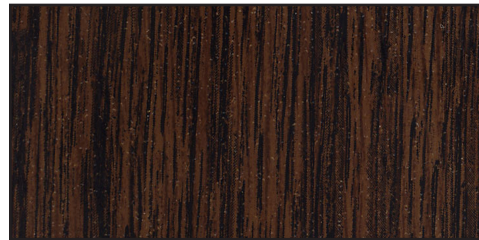
Espresso



Barn Board



Wagon Wood



Ashwood



Light Pine



Teak

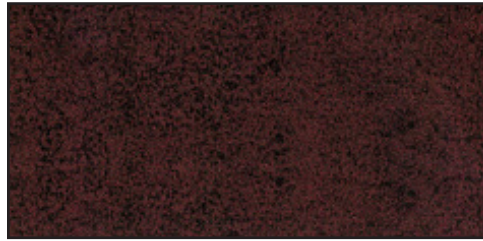
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Flawless from Fabrication to Finish





Corten



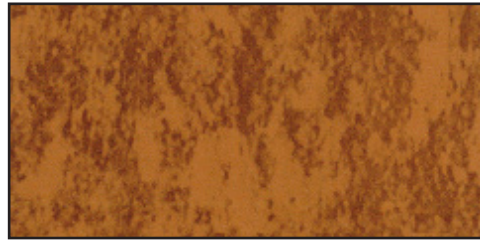
Rustic Red



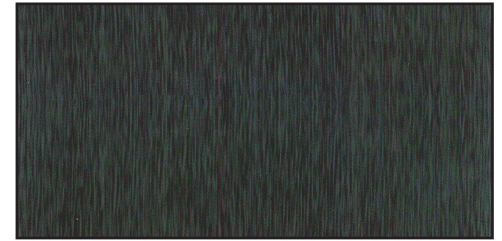
Concrete



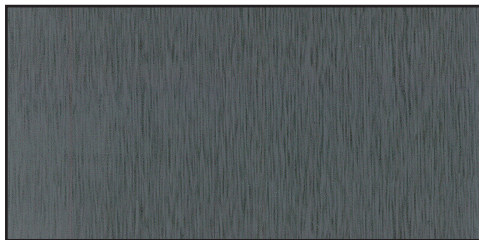
Weathered Copper



Aged Copper



Dark Zinc



Light Zinc

As the richness and depth of woodgrain colours is difficult to accurately capture in print, please consult our sales team for finish samples before purchase.

Flawless from Fabrication to Finish





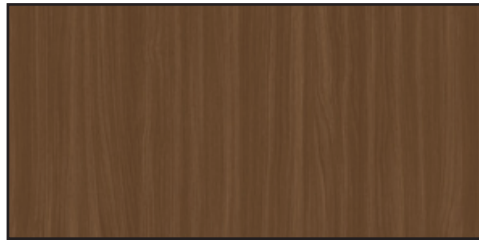
Knotty Pine



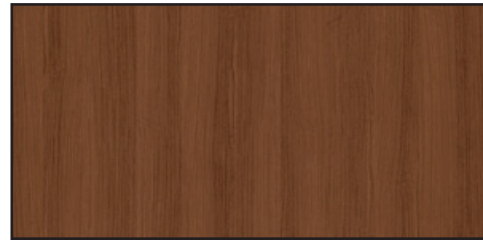
Autumn



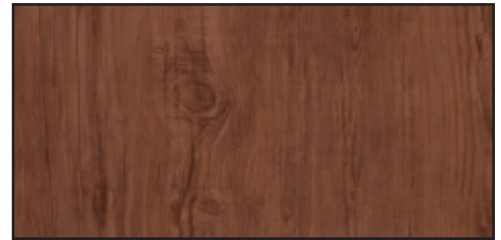
Saddle



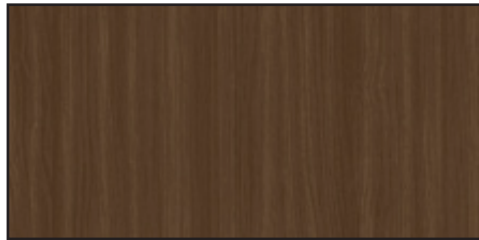
Acorn



Gunstock



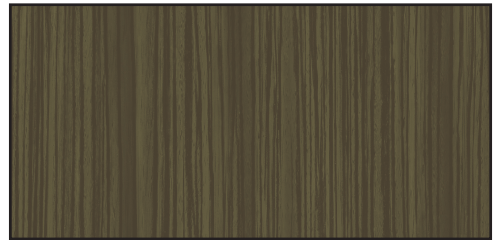
Frontier



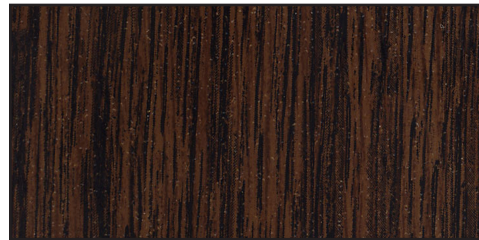
Espresso



Barn Board



Wagon Wood



Ashwood



Light Pine



Teak

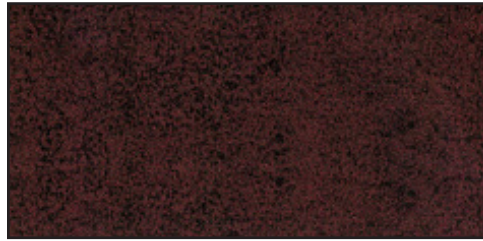
As the richness and depth of woodgrain colours is difficult to accurately capture in print, please consult our sales team for finish samples before purchase.

Flawless from Fabrication to Finish





Corten



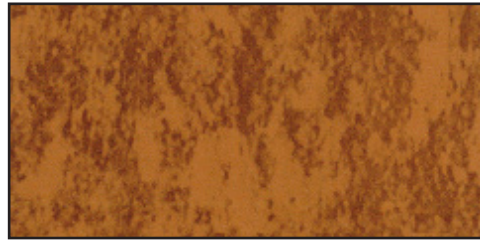
Rustic Red



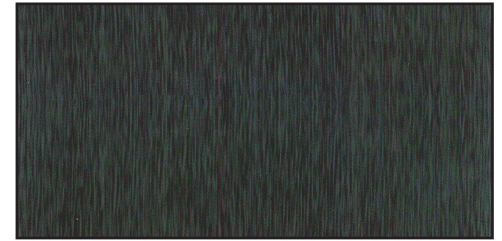
Concrete



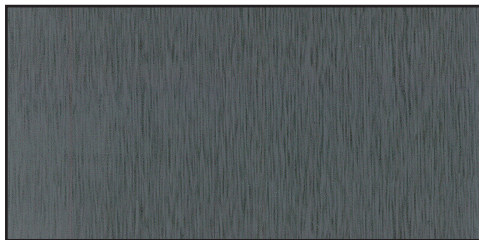
Weathered Copper



Aged Copper



Dark Zinc



Light Zinc

As the richness and depth of woodgrain colours is difficult to accurately capture in print, please consult our sales team for finish samples before purchase.

Flawless from Fabrication to Finish



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## **Part 1 General**

### **1.1 SUMMARY**

- .1 \*\*\*\* This Section includes requirements for supply and installation of exterior factory fabricated and prefinished metal wall siding [and soffit panel assemblies] with related flashings and accessory components [and support framing].

### **1.2 RELATED REQUIREMENTS**

- .1 \*\*\*\* [Section 05 41 00 - Structural Metal Stud Framing: Steel stud wall framing]
- .2 \*\*\*\* [Section 06 10 00 – Rough Carpentry: Wood framed exterior walls]
- .3 \*\*\*\* [Section 07 21 16 - Blanket Insulation: Semi-rigid insulation installed between metal panels/siding and exterior sheathing]
- .4 \*\*\*\* [Section 07 26 00 - Vapour Retarders: Perimeter vapour seal between [curtain wall] system and adjacent assemblies]
- .5 \*\*\*\* [Section 07 27 00 - Air Barriers]: Perimeter air seal between [curtain wall] system and adjacent assemblies
- .6 Section 07 92 00 - Joint Sealants

### **1.3 REFERENCE STANDARDS**

- .1 \*\*\*\* American Architectural Manufacturers Association (AAMA):
  - .1 \*\*\*\* AAMA 2605-13 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels
- .2 American Society for Testing and Materials (ASTM):
  - .1 \*\*\*\* [ASTM A653/A653M-13 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process]
  - .2 \*\*\*\* [ASTM A792/A792M-10 - Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process]



#### 1.4 ADMINISTRATIVE REQUIREMENTS

- .1 \*\*\*\* Coordination: Coordinate work of other trades having a direct bearing on work of this Section in accordance with Section [01 31 00], and as follows:
  - .1 \*\*\*\* Coordinate installation of [air barrier] [and] [vapour retarder].
  - .2 \*\*\*\* Coordinate installation of [windows] [doors] [louvres] and other components penetrating metal siding assemblies.
- .2 \*\*\*\* Pre-Installation Meeting: Before starting work of this Section, arrange a meeting in accordance with Section [01 31 19], with Contractor, siding Subcontractor, Subcontractors responsible for adjacent work, and Subcontractors responsible for work that penetrates siding assemblies.
  - .1 Review construction schedule, material availability, personnel, equipment, and other relevant issues to avoid unnecessary delays.
  - .2 Review methods and procedures related to panel installation, including manufacturer's instructions.

#### 1.5 SUBMITTALS

- .1 Submit information in accordance with Section 01 33 00 - Submission Procedures.
- .2 Action Submittals: Before starting work of this Section, submit the following:
  - .1 Shop Drawings: Indicate arrangement of siding system, include dimensions, location of joints, profiles of panels, support types and locations, sealants, fasteners, flashings, closures and all metal components related to panel installation.
  - .2 Samples:
    - .1 \*\*\*\* [Samples for Initial Selection: Submit [color chart] [physical samples on actual substrate] showing manufacturer's full range of standard colors for Consultant's selection.]
    - .2 Samples for Verification: When requested by the Consultant, submit sample in manufacturer's standard size for each panel illustrating colour, finish and texture.
- .3 Informational Submittals:
  - .1 Installation Data: Before beginning work of this Section, submit manufacturer's installation instructions, and any special handling criteria.
  - .2 Test Reports: When requested by Consultant submit certified test reports showing compliance with specified performance characteristics and physical properties.
- .4 \*\*\*\* Sustainable Design Submittals: Submit project sustainable design requirements with Section [01 35 18] [01 35 63], and as follows:
  - .1 \*\*\*\* During the course of the work, submit manufacturer's documentation indicating [percentages weight of post-consumer and pre-consumer recycled content, total weight of products and costs for each product with recycled content] [and local/regional materials].

- .5 Closeout Submittals:
  - .1 \*\*\*\* Operations and Maintenance Data: Submit maintenance data for cleaning and maintenance of panel finishes for incorporation into Operation and Maintenance manuals specified in Section [01 78 10] [01 78 23].
  - .2 Warranty Documentation: Submit manufacturer's finish warranty information.

## 1.6 QUALITY ASSURANCE

- .1 \*\*\*\* Manufacturer Qualifications:
  - .1 Company specializing in manufacturing the Products specified in this Section with minimum [three (3)] years' experience.
  - .2 Provide siding assemblies and accessories from a single manufacturer.
- .2 \*\*\*\* Installer Qualifications: Company specializing in performing the work of this Section with minimum [three (3)] years documented experience [and approved by the manufacturer].
- .3 \*\*\*\* Mock-Ups: Provide mock-up in accordance with Section [01 43 00] [01 45 00], [[\_\_\_] m [\_\_\_] ft] long by [[\_\_\_] m [\_\_\_] ft.] wide mock-up of siding [and soffit system], attachments to building [frame], associated vapour retarder and air barrier materials, weep drainage system, sealants and seals, and related insulation.
  - .1 \*\*\*\* Locate [where jointly agreed between Consultant and Contractor] [where directed by Consultant].
  - .2 Approved mock-up may remain as part of the Work.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- .1 Transport, handle, store, and protect products in accordance with Section 01 61 00, and as follows:
  - .1 Protect panels from accelerated weathering by removing or venting sheet plastic shipping wrap.
  - .2 Store prefinished material off ground protected from weather, to prevent twisting, bending, or abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
  - .3 Prevent contact with materials which may cause discolouration or staining.

## 1.8 WARRANTY

- .1 \*\*\*\* Provide a warranty to include coverage for failure of finish to meet specified requirements, including peeling, cracking, checking, blistering, chipping and excessive colour fading caused by exposure to weather:
  - .1 \*\*\*\* [Twenty (20) year for SMP standard colour finishes]
  - .2 \*\*\*\* [Twenty five (25) year for PVDF Premium metallic Printech finishes]
  - .3 \*\*\*\* [Twenty five (25) year for PVDF 12,000 series finishes]
  - .4 \*\*\*\* [Forty (40) year for NaturClad™ PVDF painted steel]



## Part 2 Products

### 2.1 MANUFACTURERS

- .1 Basis-of-Design Materials: Products named in this Section were used as the basis-of-design for the Project.
  - .1 \*\*\*\* [Additional manufacturers offering similar Products may be incorporated into the work of this Section when they meet the performance requirements established by the named Products, and when substitution requests are submitted in accordance with [01 25 00] [01 62 00].]
  - .2 \*\*\*\* [Substitutions: Not permitted]
- .2 Basis-of-Design Materials: Lenmak Exterior Innovations Inc., ShadowClad™ series siding

### 2.2 DESCRIPTION

- .1 \*\*\*\* Wall System: Preformed and prefinished single skin metal siding panels with [horizontal] [vertical] profile; fastened to [steel] [wood] framing system with concealed fastening, rear ventilated [and sub-girt system].
- .2 \*\*\*\* [Soffit System: Preformed and prefinished single skin profiled steel panels; fastened to [steel] [wood] framing system with concealed fastening system.]

### 2.3 PERFORMANCE CRITERIA

- .1 \*\*\*\* Components: Design and size components to withstand dead and live loads caused by positive and negative wind pressure acting normal to plane of wall [as calculated in accordance with the applicable building code at the Place of the Work] [to a design pressure of [\_\_\_] kPa [\_\_\_] lb/sq ft].
- .2 \*\*\*\* Maximum Allowable Deflection of Steel Panel: [L/90] [L/180] [L/240] of span.
- .3 \*\*\*\* Thermal Movement: Design assemblies for expansion and contraction within system components caused by a cycling ambient temperature range of [-40 to +35] degrees Celsius seasonally without overstressing components causing buckling, failure of connections, or other permanent detrimental effects.
- .4 Provide expansion joints to accommodate movement within siding panels, and between siding panels and structure to prevent permanent distortion or damage to siding.
- .5 Seismic Loads: Design and size components to withstand seismic loads and sway displacement as calculated in accordance with applicable building code at the Place of the Work.
- .6 \*\*\*\* System Drainage and Ventilation: Provide assemblies with positive drainage to exterior when moisture enters or condensation occurs within siding system. Exterior siding assemblies covering an air space [pressure equalized with the exterior].
- .7 \*\*\*\* Vapour Retarder: Provide continuity to the vapour retarder at building envelope, in conjunction with vapour retarders specified in Section [07 26 00].
- .8 \*\*\*\* Air Seal: Provide continuity to the building air barrier systems at building envelope, in conjunction with air seal materials specified in Section [07 27 00].



## 2.4 STEEL SHEET MATERIALS

- .1 \*\*\*\*Steel: [Galvanized G90 (Z275), to ASTM A653/A653M] [Galvalume AZ150 (AZ50) to ASTM A792/A792M]
  - .1 \*\*\*\*Thickness: [0.61 mm (24 ga.)] [0.76 mm (22 ga.)] core steel thickness

## 2.5 COMPONENTS

- .1 \*\*\*\*Siding Panels: [Factory coated galvanized steel] [Galvanized steel] [Galvalume], interlocking edges with concealed fasteners.
  - .1 Siding Panel Profile Orientation: \*\*\*\* [Horizontal] [Vertical] [As indicated on Drawings]
  - .2 Siding Panel Depth: 25 mm (1")
  - .3 Siding Exposed Panel Face Dimension: \*\*\*\* [2 planks totalling 203 mm (8")] [2 planks totalling 254 mm (10")]
- .2 \*\*\*\*Soffit Panels: [Matching material and finish of siding panels] [Factory coated galvanized steel] [Galvanized steel without additional finish] [Galvalume], interlocking edges with concealed fasteners]
  - .1 Soffit Panel Profile Orientation: \*\*\*\* [Orientation as indicated on Drawings]
  - .2 Soffit Panel Depth: 25 mm (1")
  - .3 Soffit Exposed Panel Face Dimension: \*\*\*\* [TG4 – 2x 4" planks totalling 203 mm (8")] [TG5 – 2x 5" planks totalling 254 mm (10")]
- .3 Drip Flashing: Manufacturer's standard profile; thickness and finish to match wall panel.
- .4 \*\*\*\*Corner Trim: [Manufacturer's standard profile] [Custom profile as indicated on Drawings], thickness and finish to match wall panel.
- .5 Reveal Trim: Manufacturer's standard profile; thickness and finish to match wall panel.
- .6 Starter Strip: Manufacturer's standard profile; thickness and finish to match wall panel.
- .7 \*\*\*\*Metal Framing: Galvanized steel [18 gauge framing, hat channels, adjustable Z-girts; [gauge as required by engineered design,] [sizes and profiles as indicated on Drawings] [As indicated in Section 05 41 00]
- .8 \*\*\*\* [Wood Framing: [As indicated in Section 06 10 00] [Framing, furring, strapping; softwood lumber SPF species, [pressure-preservative treated,] sizes and profiles indicated.

## 2.6 FABRICATION

- .1 Form metal profiles true to shape, accurate in size, square, and without distortions.
- .2 Factory fabricate components ready for site installation, in longest practical lengths.



## 2.7 FINISHES

### .1 Steel Finishes:

.1 \*\*\*\* Lenmak NaturClad™ Finish: PVDF coating with [wood-grain] [stone] appearance, conforming to the requirements of AAMA 2605.

.1 \*\*\*\* Colour: [Acorn finish] [Autumn finish] [Espresso finish] [Frontier finish] [Gunstock finish] [Wagon Wood finish] [Knotty Pine finish] [Saddle finish] [Barn Board finish]

\*\*\*OR\*\*\*

.2 Factory Painted SMP Coating: Two-coat, silicone-modified polyester paint system, and as follows:

.1 \*\*\*\* Colour: [Selected by Consultant from manufacturer's standard range] [Antique Linen QC3696] [Black QC8262] [Bone White QC8273] [Briarwood Tan QC8331] [Bright Red QC8386] [Cambridge White QC3695] [Charcoal QC8306] [Coffee Brown QC8326] [Dark Brown QC8229] [Dark Green] [Dark Red QC8250] [Deep Water Green QC3684] [Forest Green QC8329] [Gold QC8276] [Heron Blue QC8330] [Labrador Blue QC3688] [Melchers Green QC8307] [Metro Brown QC8228] [Mist Green QC8256] [Pacific Turquoise QC8258] [Polar White QC1820-R] [Regent Grey QC1730] [Royal Blue QC8790] [Sage Green QC6089] [Sapphire Blue QC8261] [Slate Blue QC8260] [Spruce Green QC3697] [Stone Grey QC8305] [Surf White QC8316] [Tan QC8315] [Tile Red QC8259] [Turquoise QC8310] [White-White QC8317]

\*\*\*\*OR\*\*\*\*

.3 Factory Painted PVDF Standard 12,000 series Coating: Two-coat, 70 percent by weight fluoropolymer resin (Hylar 5000 or Kynar 500), conforming to AAMA 2605, and as follows:

.1 \*\*\*\* Colour: [Selected by Consultant from manufacturer's standard colour range] [Black] [Bronze] [Champagne Metallic CM12-2007] [Colonial Red CM12-2020] [Copper Penny CM12-2005] [Dark Bronze CM12-2004] [Forest Green CM12-2018] [Hartford Green CM12-2002] [Hemlock Green CM12-2016] [Old Town Grey CM12-2019] [Old Zinc Grey CM12-2003] [Parchment CM12-2015] [Regal Blue CM12-2012] [Regal White CM12-2011] [Retro Red CM12-2010] [Sierra Slate Grey CM12-2009] [Silver Metallic CM12-2008] [Tan CM12-2017] [Terra Cotta CM12-2014] [Twilight Blue CM12-2004] [Weathered Copper CM12-2013] [Weathered Zinc CM12-2006]

\*\*\*\*OR\*\*\*\*

.4 Factory Painted PVDF Metallic Printech Coating: Three-coat, 70 percent by weight fluoropolymer resin (Hylar 5000 or Kynar 500), conforming to AAMA 2605, and as follows:

.1 \*\*\*\* Colour: [Selected by Consultant from manufacturer's standard colour range] [Aged Copper] [Cascadia Copper] [Dark Zinc] [Light Zinc] [Rustic Red] [Vintage Copper]

## 2.8 ACCESSORIES

- .1 \*\*\*\*Fasteners: [Galvanized] [Long-term corrosion resistant coated steel] [Stainless steel], as recommended by manufacturer
- .2 Escutcheons: Weatherproof type for pipe, conduit, and similar materials penetrating exterior walls
- .3 \*\*\*\*Sealant and Backing Materials: [Polyurethane type] [Silicone type] [As specified in Section 07 92 00].

## 2.9 SOURCE QUALITY CONTROL

- .1 Non-Conforming Work: Pre-finished post-formed metal panel assemblies may exhibit certain behaviors common to all fabricators. Oil canning is a moderate deformation of sheet metal surfaces, typically caused by uneven stresses at fastening points. Metal forming during panel fabrication may result fine cracks in finishes (crazing) at outer edges or bends. Take reasonable steps to prevent and mitigate these effects. Mild "oil canning" or "crazing" are not deficiencies.

## Part 3 Execution

### 3.1 EXAMINATION

- .1 \*\*\*\*Verify existing conditions before starting work in accordance with Section [01 70 00] [01 71 00] [01 73 00], and as follows:
  - .1 Verify dimensions, tolerances, and method of attachment with other work.
  - .2 Verify wall openings and adjoining air barrier and vapour retarder materials are ready to receive work of this section.
  - .3 \*\*\*\*Verify that site measurements are as [indicated on Drawings] [indicated on Shop Drawings] [instructed by the manufacturer].
  - .4 Report unsatisfactory conditions to Consultant in writing; do not start Work until unsatisfactory conditions are corrected.

### 3.2 INSTALLATION

- .1 \*\*\*\*Install supporting [furring] [framing] [on to cast-in-place concrete substrate] [on to concrete masonry unit substrate] [through exterior gypsum sheathing into structural steel stud framing].
- .2 Install starter flashing, drip and other flashing, corners, edgings, and window and door flashings, and as indicated on Drawings.
- .3 \*\*\*\*Install wall siding [and soffit material] to manufacturer's recommended installation procedures, providing proper laps true to line, and tight fitting to ensure a weather-tight face.
- .4 Install finishing flashing, cap flashing, trims and closures.
- .5 Attach components in manner not restricting thermal movement.
- .6 \*\*\*\*Align assembly plumb and level, free of twist. Maintain assembly dimensional tolerances, [aligning with adjacent work].



- .7 Metal Corrosion Protection: Provide permanent separation material where dissimilar metals contact each other, at cementitious substrates, and corrosive substrates.
- .8 Sealants: Install sealants at junctions with adjoining components described in other specification Sections, and where shown on Drawings, in accordance with Section 07 92 00. Do not install sealants in locations that will interfere with drainage of pressure-equalized assembly.
- .9 Remove site cuttings from surfaces without damaging finishes.
- .10 Replace damaged materials that cannot be satisfactorily repaired.
- .11 **\*\*\*\***Tolerances: Install assemblies in accordance with Section [01 73 00], and as follows:
  - .1 **\*\*\*\*** Maximum Offset from Alignment between Adjacent Members Butting or In-Line: [1.6 mm (1/16 inch)]
  - .2 **\*\*\*\*** Maximum Variation from Plane: [6 mm (1/4 inch)]

### 3.3

#### **CLEANING**

- .1 **\*\*\*\*** Perform general cleaning requirements for installed work in accordance with Section [01 74 00] [01 74 23], and as follows:
  - .1 Clear weep holes and drainage pathways of obstructions, dirt, and sealants.
  - .2 If siding panels show evidence of soiling, clean and wash visible surfaces with mild soap and water. Rinse with clean water.

**END OF SECTION**

**Product Name**

ShadowClad™ Tongue &amp; Groove Wall Panels

**Specification Section**

MasterFormat 07 46 10

**Manufacturer's Name**

Lenmak Exterior Innovations Inc.



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**PRODUCT DESCRIPTION**

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**PRODUCT FEATURES**

- DESCRIPTION
  - Factory fabricated metal wall or soffit cladding with related flashings and accessory components.
  - Online brochure available at: <http://www.lenmak.com>
- BASIC USES / RELATED USES
  - Exterior wall finish installed with profiles running horizontally or vertically.
- PRODUCT ATTRIBUTES AND CHARACTERISTICS
  - Factory fabricated to standard profiles or custom designed to order and produced on demand.
  - Competitive lead times, due to automation and lean manufacturing processes. Rapid turn-around times.
  - Interlocking panel design permits fully concealed fastening.
  - Available in several pre-finished colours with no limits on production quantity.
  - Available in standard, premium, and NaturClad™ woodgrain colours for use as accents or full exteriors.
  - Designed to be best in aesthetics, performance and cost efficiency.
- SUSTAINABILITY CRITERIA
  - Panels are made from a combination of pre- and post-consumer recycled materials and are 100% recyclable.
    - Steel Recycled Content: 6.8% pre-consumer and 24% post-consumer
- APPLICABLE STANDARDS, RELATED REFERENCES
  - American Architectural Manufacturers Association (AAMA):
    - AAMA 2605-13 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels
  - American Society for Testing and Materials (ASTM):
    - ASTM A653/A653M-13 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
    - ASTM A792/A792M-10 - Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process
- PERFORMANCE CRITERIA
  - System Design: Design and size components to withstand dead and live loads caused by positive



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**PRODUCT DESCRIPTION**

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and negative wind pressure acting normal to plane of wall as calculated in accordance with applicable code.

- Thermal Movement: Provide for expansion and contraction within system components.
  - Design expansion joints to accommodate movement in cladding and between cladding and structure to prevent permanent distortion or damage to cladding.
  - Seismic Loads: Design and size components to withstand seismic loads and sway displacement as calculated in accordance with applicable code.
  - Drainage: Provide positive drainage to exterior for moisture entering or condensation occurring within panel system.
- **PACKAGING, HANDLING, PROTECTION, AND DELIVERY INSTRUCTIONS**
    - Packaged onto skids or crates.
  - **SPECIAL WARRANTY**
    - Warranties for paint finishes are available, and vary depending on the finish type. Consult Lenmak Exterior Innovations Inc. for further information.
  - **LIMITATIONS**
    - Pre-finished post-formed metal panel assemblies may exhibit certain behaviors common to all fabricators. Oil canning is a moderate deformation of sheet metal surfaces, typically caused by uneven stresses at fastening points. Metal forming during panel fabrication may result fine cracks in finishes (crazing) at outer edges or bends. Mild "oil canning" or "crazing" are not deficiencies.
    - Length limitation varies by finish and by application. Consult Lenmak Exterior Innovations Inc. for further information.
  - **AVAILABILITY**
    - Directly from Lenmak Exterior Innovations Inc.
  - **COST**
    - Consult Lenmak Exterior Innovations Inc for specific product costs or relative costs.

**PRODUCT PROPERTIES**

- **MATERIALS**
  - Panels: Steel: 0.61 mm (24 ga.) or 0.76 mm (22 ga.) thick
    - Galvanized G90 (Z275), to ASTM A653/A653M
    - Galvalume AZ150 (AZ50), to ASTM A792/A792M
  - Trim and Related Components: Same material and finish as panels.

**Product Name**

ShadowClad™ Tongue &amp; Groove Wall Panels

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Lenmak Exterior Innovations Inc.



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## PRODUCT DESCRIPTION

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- **PANEL SIZES**
  - Exposed Panel Face Dimension:
    - Profile TG4 - Appearance of 2 equal planks totalling 203 mm (8")
    - OR
    - Profile TG5 - Appearance of 2 equal planks totalling 254 mm (10")
  - Panel Depth: 25 mm (1")
  - Minimum Panel Length: 457 mm (18 inches)
  - Maximum Panel Length: 7925 mm (26 feet)
- **ACCESSORIES**
  - Fasteners: As recommended by manufacturer in the following materials:
    - Galvanized
    - Long-term corrosion resistant coated
  - Sealant and Backing Materials: Polyurethane or silicone type
- **SHOP FABRICATION AND ASSEMBLY**
  - Form metal profiles true to shape, accurate in size, square, and free from distortions.
  - Factory fabricate components ready for field installation.
  - Fabricate in longest practical lengths.
  - All components are site assembled.
- **FINISH**
  - Steel Finishes:
    - Galvalume
    - Factory Painted SMP Coating: Two-coat, silicone-modified polyester paint system.
      - Available Colours: Antique Linen, Black, Bright Red, Briarwood Tan, Bone White, Cambridge White, Charcoal, Coffee Brown, Dark Brown, Dark Red, Deep Water Green, Forest Green, Gold, Heron Blue, Labrador Blue, Metro Brown, Melchers Green, Mist Green, Polar White, Royal Blue, Regent Grey, Sapphire Blue, Slate Blue, Surf White, Stone Grey, Tan, Tile Red, Turquoise, White-White.
    - Factory Painted PVDF Coating: Three-coat, 70 percent by weight fluoropolymer resin (Kynar) conforming to AAMA 2605.
      - Available Colours: Regal White, Parchment, Sierra Tan, Old Zinc Grey, Weathered Copper, Bronze, Dark Bronze, Black, Old Town Grey, Slate Grey, Twilight Blue, Regal Blue, Hemlock Green, Terra Cotta, Retro Red, Colonial Red, Copper Penny, Silver Metallic, Champagne, Weathered Zinc.



**Product Name**

ShadowClad™ Tongue & Groove Wall Panels

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Lenmak Exterior Innovations Inc.



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## PRODUCT DESCRIPTION

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- Lenmak NaturClad™ Finish: PVDF coating with simulated wood-grain finish, conforming to the requirements of AAMA 2605.
  - Available Colours/Patterns: Acorn, Autumn, Espresso, Frontier, Gunstock, Knotty Pine, Wagon Wood, Barn Wood, Saddle.

## PRODUCT PLACEMENT

- **INSTALLATION**
  - Install supporting furring or framing secured to structural framing members, cast-in-place concrete structure, or structural concrete unit masonry.
  - Install panels in accordance with manufacturer's written instructions, and as indicated on shop drawings.
  - Install assembly plumb and level, free of twist. Maintain assembly dimensional tolerances, aligning with adjacent work.
- **WASTE RECYCLING**
  - Any metal waste generated during installation is fully recyclable.

**Corporate Identification**

Lenmak Exterior Innovations Inc.  
10404 - 176 Street NW  
Edmonton, AB Canada  
T5S 1L3  
Tel: 780.451.5482 or 888.451.5482  
Fax: 780.451.0865 or 888.451.0865

<http://www.lenmak.com>  
[orderdesk@lenmak.com](mailto:orderdesk@lenmak.com)

**Classification and Filing**

MasterFormat 2014:  
07 46 10 - Metal Siding  
07 42 93 – Soffit Panels  
OmniClass:  
23-13 37 15 11 – Metal Exterior Siding  
UniFormat:  
B2010.10 - Exterior Wall Veneer

**END**

## **Recommended Cleaning & Maintenance – SMP (Silicone Modified Polyester) Coatings**

Remove protective material from prefinished metal surfaces as soon as possible - before or just after installation. Keep components out of direct sunlight, high heat and/or extreme cold until laminate film is removed.

### **Cleaning/Removal of Water-Soluble Deposits (eg. Soil, soot, pollen, other particles)**

Periodic cleaning with clean water will help to prolong the lifespan of all Lenmak products. Take care to remove dirt from corners and avoid pooling of water and pollutants at joints or edges. The frequency with which gentle cleansing is required will vary depending on the building's location, facing direction of the wall surface, local soil type, weather, pollution, humidity, salinity, and other conditions.

Where dirt and contaminants resist removal with water alone, wash down surfaces with a solution of mild (non-industrial) detergent in warm water, applied with soft, clean wiping cloths. As above, take care to remove dirt from corners and avoid pooling at joints and edges. Do not use steel wool, wire brushes, mechanical pressure-washers, or any other application method which may abrade the finish. Some cleaning chemicals may damage the surface. Test the application method and cleaning agent on an inconspicuous area before proceeding.

### **Cleaning/Removal of Non-Water-Soluble Deposits (eg. Tar, oil, paint, graffiti, sealants)**

Where the above method is ineffective, cleaning with a solvent may be the only effective method. Always test solvents in an inconspicuous area before applying to the rest of the building/wall section. Many solvents are hazardous and should be handled with care; consult manufacturer instructions for safe handling practices and procedures in case of emergency.

Types of solvents may include:

- Alcohols - Ethanol (Denatured Alcohol), Isopropyl (Rubbing Alcohol), Methanol
  - Typically have no permanent effect on SMP surfaces
- Petroleum Solvents – Naptha Spirits, Mineral Spirits, Turpentine, Kerosene
  - Typically have no permanent effect on SMP surfaces
- Aromatic Solvents – Xylol (Xylene), Tuluol (Toluene), Perchlorethylene (Perclene), Trichloroethylene (Triclene)
  - Use with caution. Limit contact to a maximum of five minutes and test carefully before using.
- Ketones, Esters – MEK (Methyl Ethyl Ketone), MIBK (Methyl Isobutyl Ketone), Ethyl Acetate (Nail Polish Remover), Lacquer Thinner
  - Use with caution. Limit contact to surface and test carefully before using. It is possible that some solvents of this type may remove or dull coating; Lenmak is not responsible for damage caused by use of solvents.
- Acetone/Paint Remover – **DO NOT USE**

**Misuse of any solvents or cleaning agents may result in voiding of finish warranty.**





## PVDF PAINT WARRANTY

For clarity purposes in regards to this warranty, "the Customer" and "the Third Party" shall be construed as one in the same. This warranty is solely for the benefit of Cascadia Metals' customer(s) and is NOT TRANSFERABLE OR ASSIGNABLE to any other party without obtaining express written permission from "Cascadia Metals". "Cascadia Metals" reserves the right to terminate this warranty at any time upon advance written notice, except with respect to any product which has already been processed or installed by "the Customer".

### WARRANTY

"Cascadia Metals" warrants that the Kynar 500 / PVDF colors sold and installed in Continental North America shall not:

- a) - Peel, Crack, Check, Blister or Chip
- b) - Chalk more than eight (8) units during years one through twenty, and six (6) units during years twenty-one through twenty-five when measured per ASTM D 4214
- c) - Fade more than five (5) NBS (hunter) units during years one through twenty and seven (7) units during years twenty-one through twenty five following field installation. Color measurements are to be made as per ASTM D 2244 and on only clean surfaces after removing surface deposits and chalk per ASTM D 3964. "Cascadia Metals" does not warrant that fading will be uniform.

If material failure occurs during the warranty period and "the Customer" is obliged to refinish, or replace some or all of the product, "Cascadia Metals" will:

- a) - Pay the reasonable cost to replace or refinish the defective sections. This determination which shall be based upon "Cascadia Metals" sole option, will be based upon an objective evaluation by "Cascadia Metals"; after considering the nature of the claim and inspecting the installation, and whether the defective sections may be refinished or must be replaced. If "the Customer's" own warranty is less than replacement to any third party, then "Cascadia Metals'" obligation shall be reduced accordingly.
- b) - "Cascadia Metals'" total liability and customers sole remedy is expressly limited to "the Customer's" purchase price at the original time of purchase. In no event shall "Cascadia Metals" be liable under any theory of recovery, whether based on negligence, strict liability, breach of contract, or tort, for any direct, indirect, special, punitive, incidental or consequential damages.
- c) - Any and all replacements qualifying under this warranty will be made by an installer approved by "Cascadia Metals".
- d) - All valid claims against this product will be covered to 100% of the original cost of the product, not including installation, during years one through ten. 75% of the original cost of the product, not including installation, during years eleven through fifteen. 50% of the original cost of the product, not including installation, during years sixteen through twenty. And decreasing by increments of 10% (per year) of the original cost of the product, not including installation, from years twenty-one through twenty-five.

"Cascadia Metals" makes no other warranties or representations of any kind, express or implied, including any implied warranty of merchantability or fitness for a particular purpose or use, and none shall be implied by law except as otherwise agreed to by "Cascadia Metals."

### DEFINITIONS

**Abnormal Exposure Area:** - an area of corrosive exposure such as, but not limited to, exposure to salt water spray or exposure to, strong acidic or alkaline emissions, such as those in the vicinity of paper mills, fertilizer plants, aluminum processing plants, copper smelters and similar operations.

**Blister:** - those areas of the coating that are detached from the underlying substrate or intermediate layer.

**Chip:** - small areas of surface paint failure, as evidenced by coating not adhering, as opposed to physical damage as a result of bumping, nicking, crimping or banging.

**Crack:** - breaks in the flat coated surface resulting from exposure, as distinguished from those breaks in the film associated with metal forming or fabrication, as seen with the naked eye and which allow the film to be removed by taping.

**Peel:** - refers to pulling away or falling away of pieces of the coating, due to failure of the coating.

**Chalk Rating:** resistance level of material as per the PHYSICAL PROPERTIES GUIDE.

**Fade / Color Change Rating:** - Allowable levels of color change over the warranted life of the material. Measured after all contaminants have been removed from the surface in accordance with ASTM standards.

**Check:** - means areas of surface paint failure, as evidenced by a flaw or imperfection in the coil.

**Elements:** - referring, but not limited, to: sunlight, rain, wind, snow, pollutants in the air, heat, UV rays, acid rain.

**Kynar 500:** - is a registered trademark of Atofina Chemical Inc.

## CONDITIONS

All Kynar 500 / PDVF colors supplied by "Cascadia Metals" are available to be warranted, however, the warranty will not extend to, or cover:

- a) - damage to the product caused by incorrect storage of the coated metal prior to installation or improper packaging, handling, shipping, processing and/or installation; or
- b) - damage to the material which was created by incorrect forming, fabrication, cut edge exposure.
- c) - non processed material that has been in the possession of "the Customer" for a period longer than 1 year.

In addition to and without limiting to the other conditions of this warranty, all of the following specific conditions must be met:

- a) - the coated surface must be a surface on which no standing water accumulates.
- b) - the product must be formed and installed by a qualified installation company, approved by "Cascadia Metals" to do the work.
- c) - if product is on a surface located less than 300 meters (1000 feet) from the ocean (salt water), maintenance will be performed by the building owners; including annual sweet water (fresh tap water) rinse in accordance with AAMA 610.1-1979.
- d) The product must never be cleaned with abrasive or chemical cleaners.

This warranty will not be applicable to damage or failure which is attributed to: improper maintenance, acts of God, falling objects, external forces, earthquake, explosions, fire, flood, riots, civil commotions, acts of war, or other such similar or dissimilar occurrences beyond "Cascadia Metals" control. This warranty does not cover problems directly or indirectly caused by having the material stored or installed in, on, around, or near the vicinity of an abnormal exposure area.

## CUSTOMER / THIRD PARTY CLAUSES

In the event that this warranty is extended to a "Third Party", "the Customer" shall:

- a) - Inspect all materials prior to processing, to make certain that all products meet or exceed "the Customer's" own fabrication requirements.
- b) - Customer shall maintain adequate records to identify the following: Third Party customer information, master coil numbers, original purchase order information, product identification, date of application and date of fabrication.
- c) - All records and or samples pertaining to this warranty are to be kept on file by "the Customer" for the warranty period applicable to the product, and in the event of a claim hereunder, "Cascadia Metals" shall have the right to inspect such records and samples.
- d) - All products which have been replaced, under this warranty may, at the discretion of "Cascadia Metals", become the property of "Cascadia Metals".

All the foregoing conditions constitute material terms of this warranty and violation by "the Customer" or its agents or representatives or "Third Party customers" of any one or more conditions shall release "Cascadia Metals" from its obligations hereunder.

## MAKING A CLAIM

All claims under the foregoing warranty must be made in writing, and **delivered by registered mail**, within 30 days after the inconsistency is discovered and before any repairs are made, to:

**Cascadia Metals Ltd.**  
7630 Berg Road  
Delta, British Columbia, Canada  
V4G 1G4  
Attn: Warranty Claims Representative

Any repairs made prior to or during the investigation period without "Cascadia Metals" written approval will be at the owner's sole expense. "**Cascadia Metals**" must be given reasonable opportunity to inspect the material claimed to be defective. "The Customer" has the responsibility for any video or still photos of the defective product for "Cascadia Metals" inspection, and to arrange inspection of the site where the material in question is located. Should the claim be found not covered under this warranty, "the Customer" shall reimburse all of "Cascadia Metals" and third party expenses incurred in connection with the investigation of the claim.

## APPLICABLE LAW

In the event that any one (1) or more of these articles or stipulations is not enforceable by law, that specific section shall be stricken from this warranty and the balance shall remain totally intact and unfractured.

This agreement shall be deemed to have been made executed and delivered within the borders of Canada and shall be governed by and enforced in accordance with Canadian law and the laws of the Province Of British Columbia. This agreement and any sales of the product by "Cascadia Metals" to "the Customer" shall be interpreted, governed and enforced in accordance with Canadian Law and the laws of the Province of British Columbia. Any disputes arising under or pursuant to the matters contemplated by this agreement, at "Cascadia Metals" election; shall be resolved by arbitration or legal process, in New Westminster British Columbia. The authorities and Courts of the Province of British Columbia shall have exclusive jurisdiction over such disputes, especially with respect to matters of validity, execution interpretation, enforcement or compliance. The parties hereby consent to service, jurisdiction and venue of such authorities and courts and waive any other venue to which they might be entitled by virtue of domicile, habitual residence or otherwise. "The Customer" agrees that any finding made by a court or arbitrator pursuant to this section shall be given full faith and recognition in its resident country or in any other non-Canadian jurisdiction. Each party shall be responsible for its own attorneys' fees and costs.



## SMP PAINT WARRANTY

For clarity purposes in regards to this warranty, "the Customer" and "the Third Party" shall be construed as one in the same. This warranty is solely for the benefit of "Cascadia Metals" customer(s) and is NOT TRANSFERRABLE OR ASSIGNABLE to any other party without obtaining the express written permission from "Cascadia Metals". "Cascadia Metals" reserves the right to terminate this warranty at any time upon advance written notice, except with respect to any product which has already been processed or installed by "the Customer".

### WARRANTY

"Cascadia Metals" warrants that the Silicon Modified Polyester colors sold and installed in Continental North America shall not:

- a) - Peel, Crack, Check, Blister or Chip
- b) - Chalk more than eight (8) vertical units and seven (7) non-vertical units during years one through ten, and six (6) vertical units and five (5) non-vertical units during years eleven through twenty when measured per ASTM D 4214
- c) - Fade more than five (5) vertical NBS (hunter) units and six (6) non-vertical NBS (hunter) units during years one through ten and seven (7) vertical NBS (hunter) units and eight (8) non-vertical NBS (hunter) units during years eleven through twenty following field installation. Color measurements are to be made as per ASTM D 2244 and on only clean surfaces after removing surface deposits and chalk per ASTM D 3964. "Cascadia Metals" does not warrant that color fading will be uniform.

If material failure occurs during the warranty period and "the customer" is obliged to refinish, or replace some or all, of the product, "Cascadia Metals" will:

- a) - Pay the reasonable cost to replace or refinish the defective sections. This determination, which shall be based upon "Cascadia Metals" sole option, will be based upon an objective evaluation by "Cascadia Metals"; after considering the nature of the claim and inspecting the installation, and whether the defective sections may be refinished or must be replaced. If "the Customers" own warranty is less than replacement to any third party, then "Cascadia Metals" obligation shall be reduced accordingly.
- b) - "Cascadia Metals" total liability and customers sole remedy is expressly limited to "the Customers" purchase price at the original time of purchase. In no event shall "Cascadia Metals" be liable under any theory of recovery, whether based on negligence, strict liability, breach of contract, or tort, for any direct, indirect, special, punitive, incidental or consequential damages.
- c) - Any and all replacements qualifying under this warranty will be made by an installer approved by "Cascadia Metals".
- d) - All valid claims against this product will be covered to 100% of the original cost of the product, not including installation, during years one through eight. 80% of the original cost of the product, not including installation, during years nine through thirteen. And decreasing by increments of 10% (per year) of the original cost of the product, not including installation, from years fourteen through twenty.

"Cascadia Metals" makes no other warranties or representations of any kind, express or implied, including any implied warranty of merchantability or fitness for a particular purpose or use, and none shall be implied by law except as otherwise agreed to by "Cascadia Metals."

### DEFINITIONS

**Abnormal Exposure Area:** - an area of corrosive exposure such as, but not limited to, exposure to salt water spray or exposure to, strong acidic or alkaline emissions, such as those in the vicinity of paper mills, fertilizer plants, aluminum processing plants, copper smelters and similar operations.

**Blister:** - those areas of the coating that are detached from the underlying substrate or intermediate layer.

**Chip:** - small areas of surface paint failure, as evidenced by coating not adhering, as opposed to physical damage as a result of bumping, nicking, crimping or banging.

**Crack:** - breaks in the flat coated surface resulting from exposure, as distinguished from those breaks in the film associated with metal forming or fabrication, as seen with the naked eye and which allow the film to be removed by taping.

**Peel:** - refers to pulling away or falling away of pieces of the coating, due to failure of the coating.

**Chalk Rating:** resistance level of material as per the PHYSICAL PROPERTIES GUIDE.

**Fade / Color Change Rating:** - Allowable levels of color change over the warranted life of the material. Measured after all contaminants have been removed from the surface in accordance with ASTM standards.

**Check:** - means areas of surface paint failure, as evidenced by a flaw or imperfection in the coil.

**Elements:** - referring, but not limited, to: sunlight, rain, wind, snow, pollutants in the air, heat, UV rays, acid rain.



## CONDITIONS

All Silicon Modified Polyester colors supplied by "Cascadia Metals" are available to be warranted, however, the warranty will not extend to, or cover:

- a) - damage to the product caused by incorrect storage of the coated metal prior to installation or improper packaging, handling, shipping, processing and/or installation; or
- b) - damage to the material which was created by incorrect forming, fabrication, cut edge exposure.
- c) - non processed material that has been in the possession of "the Customer" for a period longer than 1 year.
- d) - material installed on a surface located less than 1500 meters from the ocean (salt water).

In addition to and without limiting to the other conditions of this warranty, all of the following specific conditions must be met:

- a) - the coated surface must be a surface on which no standing water accumulates.
- b) - the product must be formed and installed by a qualified installation company, approved by "Cascadia Metals" to do the work.
- c) - the product must never be cleaned with abrasive or chemical cleaners.

This warranty will not be applicable to damage or failure which is attributed to: improper maintenance, acts of God, falling objects, external forces, earthquake, explosions, fire, flood, riots, civil commotions, acts of war, or other such similar or dissimilar occurrences beyond "Cascadia Metals" control. This warranty does not cover problems directly or indirectly caused by having the material stored or installed in, on, around or near the vicinity of an abnormal exposure area.

## CUSTOMER / THIRD PARTY CLAUSES

In the event that this warranty is extended to a "Third Party", "The Customer" shall:

- a) - Inspect all materials prior to processing, to make certain that all products meet or exceed "the Customers'" own fabrication requirements.
- b) - Customer shall maintain adequate records to identify the following: Third Party customer information, master coil numbers, original purchase order information, product identification, date of application and date of fabrication.
- c) - All records and or samples pertaining to this warranty are to be kept on file by "the Customer" for the warranty period applicable to the product, and in the event of a claim hereunder, "Cascadia Metals" shall have the right to inspect such records and samples.
- d) - All products which have been replaced, under this warranty may, at the discretion of "Cascadia Metals", become the property of "Cascadia Metals".

All the foregoing conditions constitute material terms of this warranty and violation by "the Customer" or its agents or representatives or "Third Party customers" of any one or more conditions shall release "Cascadia Metals" from its obligations hereunder.

## MAKING A CLAIM

All claims under the foregoing warranty must be made in writing, and **delivered by registered mail**, within 30 days after the inconsistency is discovered and before any repairs are made, to:

**Cascadia Metals Ltd.**  
7630 Berg Road  
Delta, British Columbia, Canada  
V4G 1G4  
Attn: Warranty Claims Representative

Any repairs made prior to or during the investigation period without "Cascadia Metals" written approval will be at the owner's sole expense. "**Cascadia Metals**" must be given reasonable opportunity to inspect the material claimed to be defective. "The Customer" has the responsibility for any video or still photos of the defective product for "Cascadia Metals" inspection, and to arrange inspection of the site where the material in question is located. Should the claim be found not covered under this warranty, "the Customer" shall reimburse all of "Cascadia Metals" and third party expenses incurred in connection with the investigation of the claim.

## APPLICABLE LAW

In the event that any one (1) or more of these articles or stipulations is not enforceable by law, that specific section shall be stricken from this warranty and the balance shall remain totally intact and unfractured.

This agreement shall be deemed to have been made executed and delivered within the borders of Canada and shall be governed by and enforced in accordance with Canadian law and the laws of the Province Of British Columbia. This agreement and any sales of the product by "Cascadia Metals" to "the Customer" shall be interpreted, governed and enforced in accordance with Canadian Law and the laws of the Province of British Columbia. Any disputes arising under or pursuant to the matters contemplated by this agreement, at "Cascadia Metals" election; shall be resolved by arbitration or legal process, in New Westminster British Columbia. The authorities and Courts of the Province of British Columbia shall have exclusive jurisdiction over such disputes, especially with respect to matters of validity, execution interpretation, enforcement or compliance. The parties hereby consent to service, jurisdiction and venue of such authorities and courts and waive any other venue to which they might be entitled by virtue of domicile, habitual residence or otherwise. "The Customer" agrees that any finding made by a court or arbitrator pursuant to this section shall be given full faith and recognition in its resident country or in any other non-Canadian jurisdiction. Each party shall be responsible for its own attorneys' fees and costs.