

PART 1 - GENERAL

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| <u>1.1 RELATED REQUIREMENTS</u> | .1 | Section 05 50 00 - Metal Fabrications. |
| | .2 | Section 07 62 00 - Sheet Metal Flashing and Trim. |
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| <u>1.2 REFERENCE STANDARDS</u> | .1 | American Society of Mechanical Engineers (ASME)
.1 ASME B18.6.3-2011, Machine Screws, Tapping Screws, and Metallic Drive Screws (Inch Series). |
| | .2 | ASTM International
.1 ASTM D 2369-10e1, Test Method for Volatile Content of Coatings.
.2 ASTM D 2832-92(2011), Standard Guide for Determining Volatile and Nonvolatile Content of Paint and Related Coatings. |
| | .3 | CSA International
.1 CSA B111-2003, Wire Nails, Spikes and Staples.
.2 CSA-S136, Design of Cold Formed Steel Structural Members. |
| | .4 | Environmental Choice Program (ECP)
.1 CCD-045-95, Sealants and Caulking Compounds.
Product Data:
it manufacturer's instructions,
printed product literature and data sheets for metal siding and include product characteristics, performance criteria, physical size, finish and limitations.
.2 Indicate VOC's for caulking materials during application and curing. |
| | .2 | Shop Drawings:
.1 Submit drawings stamped and signed by professional engineer registered or licensed in Newfoundland and Labrador, Canada. |
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1.4 QUALITY ASSURANCE

- .1 Manufacturer and installer shall demonstrate at least five years experience installing similar cladding.
- .2 Test Reports: submit certified test reports showing compliance with specified performance characteristics and physical properties.
- .3 Certificates: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

1.5 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials off ground in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect metal siding from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.

PART 2 - PRODUCTS

2.1 STEEL CLADDING AND COMPONENTS

- .1 Strip siding: to CAN/CGSB-93.4, Type A vertical, Class plain.
 - .1 Finish coating: silicone modified polyester (SMP) top coat.
 - .2 Colour: colour selected by Departmental Representative, from full standard selection.
 - .3 Gloss: 30 ± 5 medium.
 - .4 Thickness: 0.65 mm base metal thickness.
 - .5 Profile: preformed interlocking joints, fastener holes prepunched, profile as indicated on drawings.
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- 2.1 STEEL CLADDING AND COMPONENTS
(Cont'd)
- .1 (Cont'd)
- .6 Allow for thermal movement from ambient and surface temperature changes by preventing buckling, overstressing of components, failure of connections and other detrimental effects.
- .7 Include expansion joints to accommodate movement of cladding to prevent permanent distortion.
- .2 Exposed Trim: to CAN/CGSB-93.4, Class plain:
- .1 Finish coating: to match vertical siding.
- .2 Colour: to match vertical siding.
- .3 Thickness: 0.65 mm base metal thickness.
- .4 Profile: manufacturer's standard as indicated.
- 2.2 FASTENERS
- .1 Screws: ASME B18.6.3. Purpose made , cadmium plated steel, coloured nylon head to match cladding. Skirt flange with neoprene washer.
- 2.3 CAULKING
- .1 Sealants:
- .1 Test for acceptable VOC emissions in accordance with ASTM D 2369 and ASTM D 2832.
- .2 Concealed: Tape or compound, non-shrinking, non-drying, butyl rubber.
- .3 Exposed: One part silicone to CAN 2-19.13.
- 2.4 ACCESSORIES
- .1 Exposed trim: inside corners, outside corners, cap strip, drip cap, starter strip and opening trim of same material, colour and gloss as cladding, with fastener holes pre-punched.
- .2 Rubber opening closure covers: at operable gate opening, install two full-height natural rubber closure (end flaps) to provide minimal weather protection.
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PART 3 - EXECUTION

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| <u>3.1 EXAMINATION</u> | .1 | Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable in accordance with manufacturer's written instructions.
.1 Visually inspect substrate in presence of Departmental Representative.
.2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
.3 Proceed with installation only after unacceptable conditions have been remedied. |
| <u>3.2 MANUFACTURER'S INSTRUCTIONS</u> | .1 | Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets. |
| <u>3.3 INSTALLATION</u> | .1 | Install cladding in accordance with manufacturer's written instructions. |
| | .2 | Install continuous starter strips, inside and outside corners, edgings, cap, sill and opening flashings as indicated. |
| | .3 | Install outside corners, fillers and rubber closure strips with carefully formed and profiled work. |
| | .4 | Maintain joints in exterior cladding, true to line, tight fitting, hairline joints. |
| | .5 | Attach components in manner not restricting thermal movement. |
| | .6 | Caulk junctions with adjoining work with sealant, in accordance with manufacturer's instructions. |
| | .7 | Install cladding to maintain maximum offset from true alignment between two adjacent members abutting end to end in line: 1mm. |
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- 3.4 CLEANING
- .1 Clean exposed surface panels in accordance with manufacturer's instructions.
 - .1 Leave Work area clean at end of each day.
 - .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.
 - .3 Repair and touch-up with colour matching, high grade enamel minor surface damages.
- 3.5 PROTECTION
- .1 Protect installed products and components from damage during construction.
 - .2 Repair damage to adjacent materials caused by preformed metal siding installation.

PART 1 - GENERAL

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| <u>1.1 RELATED REQUIREMENTS</u> | .1 | Section 05 50 00 - Metal Fabrications. |
| | .2 | Section 07 46 13 - Preformed Metal Siding. |
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| <u>1.2 REFERENCE STANDARDS</u> | .1 | The Aluminum Association Inc. (AAI) |
| | .1 | AAI-Aluminum Sheet Metal Work in Building Construction-2002. |
| | .2 | AAI DAF45-03, Designation System for Aluminum Finishes. |
| | .2 | American Society for Testing and Materials International (ASTM) |
| | .1 | ASTM A 606-04, Standard Specification for Steel, Sheet and Strip, High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, with Improved Atmospheric Corrosion Resistance. |
| | .2 | ASTM A 653/A 653M-07, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process. |
| | .3 | ASTM A 792/A 792M-06a, Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process. |
| | .4 | ASTM B 32-04, Standard Specification for Solder Metal. |
| | .5 | ASTM D 523-89(1999), Standard Test Method for Specular Gloss. |
| | .6 | ASTM D 822-01(2006), Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings. |
| | .3 | Canadian Roofing Contractors Association (CRCA) |
| | .1 | Roofing Specifications Manual 1997. |
| | .4 | Canadian Standards Association (CSA International) |
| | .1 | CSA B111-2003, Wire Nails, Spikes and Staples. |
| | .2 | CSA-S136 Design of Cold Formed Steel Structural Members. |
| | .5 | Health Canada/Workplace Hazardous Materials Information System (WHMIS) |
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1.2 REFERENCE STANDARDS <u>(Cont'd)</u>	.5	(Cont'd) .1 Material Safety Data Sheets (MSDS).
1.3 ACTION AND INFORMATIONAL SUBMITTALS <u></u>	.1	Product Data: .1 Submit manufacturer's printed product literature for sheet metal flashing systems materials, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.
	.2	Shop Drawings: .1 Shop drawings: Submit drawings stamped and signed by professional engineer registered or licensed in Newfoundland and Labrador, Canada.
	.3	Samples: .1 Submit duplicate 50 x 50 mm samples of each type of sheet metal material, finishes and colours.
	.4	Quality assurance submittals, submit following: .1 Manufacturer's Instructions: submit manufacturer's installation instructions and special handling criteria, installation sequence, and cleaning procedures.
1.4 QUALITY ASSURANCE <u></u>	.1	Pre-Installation Meetings: convene pre-installation meeting one week prior to beginning work of this Section and on-site installation, with Departmental Representative. .1 Verify project requirements. .2 Review installation and substrate conditions. .3 Co-ordination with other subtrades. .4 Review manufacturer's installation instructions and warranty requirements.
1.5 DELIVERY, STORAGE AND HANDLING <u></u>	.1	Deliver, store and handle materials in accordance with manufacturer's recommendations.

1.5 DELIVERY, STORAGE AND HANDLING (Cont'd)	.2 Waste Management and Disposal: .1 Separate waste materials for recycling in accordance with local requirements.
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PART 2 - PRODUCTS

2.1 PREFINISHED STEEL SHEET	.1 Prefinished steel with factory applied polyvinylidene fluoride. .1 Blue colour selected by Departmental Representative from manufacturer's full standard range. .2 Specular gloss: 30 units +/- 5 in accordance with ASTM D 523. .3 Coating thickness: not less than 22 micrometres. .4 Resistance to accelerated weathering for chalk rating of 8, colour fade 5 units or less and erosion rate less than 20% to ASTM D 822 as follows: .1 Outdoor exposure period 2500 hours. .2 Humidity resistance exposure period 5000 hours.
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2.2 ACCESSORIES	.1 Isolation coating: alkali resistant bituminous paint. .2 Plastic cement: to CAN/CGSB 37.5. .3 Sealants: Cauck junctions with sealants in accordance with manufacturer's instructions for metal siding. .4 Washers: of same material as sheet metal, 1 mm thick with rubber packings. .5 Touch-up paint: as recommended by prefinished material manufacturer.
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2.3 FABRICATION	.1 Fabricate metal flashings and other sheet metal work as indicated. .2 Form pieces in 2400 mm maximum lengths. .1 Make allowance for expansion at joints.
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| <u>2.3 FABRICATION</u>
(Cont'd) | .3 | Hem exposed edges on underside 12 mm.
.1 Mitre and seal corners with sealant. |
| | .4 | Form sections square, true and accurate to size, free from distortion and other defects detrimental to appearance or performance. |
| | .5 | Apply isolation coating to metal surfaces to be embedded in concrete or mortar. |

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| <u>2.4 METAL FLASHINGS</u> | .1 | Form flashings, copings and caps to profiles indicated of 0.65 mm thick prefinished steel. |
| | .2 | Sizes and profiles as indicated. |

PART 3 - EXECUTION

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| <u>3.1 MANUFACTURER'S INSTRUCTIONS</u> | .1 | Compliance: comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and datasheets. |
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| <u>3.2 INSTALLATION</u> | .1 | Sub-grit framing system: install sub-grit and frame all openings in cladding. |
| | .2 | Install starter strip flashing at base of claddings and top of all openings. |
| | .3 | Install cladding in accordance with manufacturer's instructions providing laps to form a continuous barrier. |
| | .4 | Install flashing and cap flashing. |
| | .5 | Install sealants at junctions with adjoining work. |
| | .6 | Use exposed fastenings except where approved before installation. |
| | .7 | Lock end joints and caulk with sealant. |
| | .8 | Caulk flashing at cap flashing with sealant. |
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3.3 FIELD QUALITY CONTROL .1 Manufacturer's Field Services:
.1 Provide manufacturer's field services consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.

3.4 CLEANING .1 Clean exposed surface panels in accordance with manufacturer's instructions.
.2 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.
.3 Leave work areas clean, free from grease, finger marks and stains.
.4 Repair and touch up with colour matching high grade enamel minor surface damage.