

LUXYCLAD[®] Aluminum
Architectural
Systems

SPECIFICATIONS SIDING & SOFFIT

LUXYCLAD AluminumRainscreenCladding

Section: 07 46 16 Aluminum Siding



76 RIDLEY ROAD
ST CATHARINES ON L2S 3Y8

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Part 1 GENERAL

1.1 SECTION INCLUDES

- .1 Supply and installation of prefinished profile aluminum cladding and soffit which form a part of an exterior rainscreen assembly, or as an interior assembly, using concealed fasteners and aluminum trim and accessory pieces.

1.2 RELATED WORK

- .1 [Section 01 74 21 - Construction/Demolition Waste Management and Disposal]
- .2 [Section 05 41 00 - Structural Metal Stud Framing]
- .3 [Section 06 10 00 - Rough Carpentry]
- .4 [Section 07 21 13 - Board Insulation]
- .5 [Section 07 25 13 - Modified Bituminous Air and Vapour Retarders]
- .6 [Section 07 62 00 - Sheet Metal Flashing and Trim]
- .7 [Section 07 92 00 - Joint Sealants]

1.3 REFERENCES

- .1 American Architectural Manufacturers Association (AAMA)
 - .1 AAMA 2603 - Voluntary Specification Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels.
 - .2 AAMA 2604-13, Voluntary Specification Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels.
 - .3 AAMA 2605-11, Voluntary Specification for Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.
- .2 American Society for Testing and Materials International (ASTM)

- .1 ASTM E84, Standard Test Method for Surface Burning Characteristics of Building Material.
- .2 ASTM E136, Standard Test Method for Behaviour of Materials in a Vertical Tube Furnance at 750°C.
- .3 ASTM E2768-11, Standard Test Method for Extended Duration Surface Burning Characteristics for Building Materials.
- .4 ASTM E283-04, Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
- .5 ASTM E331-14, Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Uniform Static Air Pressure Difference.
- .6 ASTM E330-14, Standard Test Method for Structural Performance of Exterior Windows, Skylights, Doors and Curtain Walls by Uniform Static Air Pressure Difference (Modified).

.3 Underwriters Laboratories Canada (ULC)

- .1 CAN/ULC S114-05, Standard Test Method for Determination of Non-Combustibility in Building
- .2 Materials. ULC-S135-04, Standard Test Method for the Determination of Combustibility Parameters of Building Materials Using an Oxygen Consumption Calorimeter (Cone Calorimeter).
- .4 International Organization for Standardization (ISO)
 - .1 ISO 9227:1990, Corrosion Tests in Artificial Atmospheres – Salt Spray Tests.
- .5 Canada Green Building Council (CaGBC)
 - .1 LEED v4 Building Design and Construction (2016).
 - .2 LEED Canada 2009 Rating System, LEED Canada for New Construction and Major Renovations. LEED Canada for Core and Shell Development.

1.4 PERFORMANCE REQUIREMENTS

- .1 Maximum deflection not to exceed $L/180$ under system's own weight plus wind loads (positive and negative) prevalent for the location of the building, with loads acting normal to the plane in accordance with the Building Code Climatic Data, using 1-50 year probability factor.
- .2 Design cladding to span continuously over structural supports with fastening to structural supports to sustain factored loads in accordance with authority having jurisdiction.
- .3 Provide system to accommodate thermal movement of components and structural movements to provide an installation free of oil canning, wind rattle, buckling, failure of joint seals, and undue stress on fasteners.
- .4 Include expansion joints to accommodate movement in wall system and between wall system and building structure, caused by structural movements, without permanent distortion, damage to infills, racking of joints, breakage of seals, or water penetration.
- .5 Design system based on "Rain Screen Principle" per the National Research Council. Provide for positive drainage to the exterior of all water entering or condensation occurring within the system.

1.5 LEED CREDITS

- .1 Provide required information in accordance with Section 01 33 00 – Submittal Procedures.
- .2 Coordinate LEED project and submittal requirements with Section 01 35 21 – LEED Requirements. Applicable
- .3 Credits:
 - .1 Material & Resources (MR)
 - .1 MR Credit 2.1, 2.2 – Construction Waste Management
 - .2 Indoor Environment Quality (EQ)
 - .1 EQ Credit 4.1-4.6 – Low Emitting Materials
 - .3 Innovation (IN)
 - .1 ID Credit – Biophilic Design

1.6 SUBMITTALS

- .1 Submit product data in accordance with Section 01 33 00 – Submittal Procedures:
 - .1 Submit manufacturer's printed product literature, specifications, and datasheets.
 - .2 LEED Submittals: Coordinate LEED submittal requirements with Section 01 35 21 – LEED Requirements.
 - .3 Product Data: Submit manufacturer's product data, standard drawing details, and installation instruction for system and individual components.
 - .1 Indicate arrangement of cladding system including dimensions, wall openings, location of joints, profiles of inner and outer skin, types and locations of supports, fasteners, flashing, closures, compliance with design criteria, and requirements of related work.
 - .4 Submit samples of siding material representative of colour/finish and profile specified.
 - .5 Submit additional manufacturer's documentation:
 - .1 Preparation instructions and recommendations.
 - .2 Storage and handling requirements and recommendations.
 - .3 Installation instructions.

- .6 Close-out Submittals: Upon project completion, submit manufacturer's warranties, including limitations and conditions, and maintenance and cleaning instructions.

1.7 QUALITY ASSURANCE

- .1 Coordinate requirements with Section 01 45 00 – Quality Control.
- .2 Testing Reports: Certified testing reports showing compliance with specified performance characteristics and physical properties, including laboratory reports showing compliance with specified tests and standards.
- .3 Installer Qualifications: Engage professional and experienced installer, with a minimum of 5 years experience, who has completed installation of systems similar performance record.
- .4 Pre-installation Meeting: Conduct pre-installation meeting to verify project drawings and requirements, manufacturer's installation instructions, and manufacturer's warranty requirements.
 - .1 Participants: General Contractor, Installation Subcontractor, [Construction Manager], [Project Manager], [Owner], [Consultant], [Architect], and [Engineer].
 - .2 Verify project requirements.
 - .3 Review installation and substrate conditions.
 - .4 Coordination with other building subtrades whose work affects, or is affected by, the work of this Section, to conform to construction sequence, project schedule, and quality of workmanship. Review manufacturer's installation instructions and
 - .5 warranty requirements.

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- .5 Mock-ups: Mock up complete cladding system at location as directed by [Consultant], [Architect], [Engineer].
 - .1 Construct a [portion of one exterior wall in location agreed upon by Consultant] as a free-standing mock-up, to establish a standard of construction, workmanship, and appearance.
 - .2 Construct mock-up indicating relationship between wall cladding, air spaces, air/vapour retarder membrane, windows, and doors.
 - .3 Do not continue with work of this Section until Consultant has approved mock-up.
 - .4 Remove free-standing mock-up upon completion of all cladding work or when otherwise directed by Consultant.
 - .6 Conduct a site meeting upon completion of the project, before the installation subcontractor departs from site. Contractor and subcontractor will review any deficiencies. These deficiencies will be corrected before the departure of the installation subcontractor from job site.

1.8 DELIVERY, STORAGE, AND HANDLING

- .1 Conform to manufacturer’s ordering instructions and lead time requirements to avoid construction delays.
- .2 Deliver materials and components in manufacturer’s unopened cartons, properly labeled and fully identified by product name and brand. Prevent any damage during unloading, storing, and installation.
- .3 Store, protect, and handle materials and components in accordance with manufacturer’s recommendations to prevent any damages.
- .4 Store materials off ground and keep clean, dry, and free of dirt and debris. Store away from areas with falling objects or other construction activity that may occur or cause damage.
- .5 Do not store cartons in stacks more than 6 cartons high. Prevent contact with materials capable of causing discolouration, staining, denting, or other surface damage.

1.9 PROJECT/SITE CONDITIONS

- .1 Verify location of structural members, openings in substrates, and square footage area relating to this product, by field measurements, before ordering and fabrication of material. Coordinate fabrication and delivery schedule with construction progress to avoid delays.
- .2 Undertake installation work only when weather conditions meet manufacturer’s environmental requirements and when conditions will permit work to be performed in accordance with manufacturer recommendations and warranty requirements.

1.10 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for recycling in accordance with Section 01 74 21 – Waste Management and Disposal.
- .2 Divert used metal cut-offs from landfill by disposal [into the on-site metals recycling bin] [removed for disposal at the nearest metal recycling facility].
- .3 Divert reusable materials for reuse at nearest used building materials facility.

1.11 WARRANTY

- .1 All manufacturer’s product warranties are against physical defects of systems and products that are properly installed and maintained according to the manufacturer’s instructions and recommendations.
 - .1 LUXYLIFE™ lifetime (up to 50 years) limited warranty guarantees against buckling, warping, rusting, corroding, and defects in material or workmanship on aluminum siding and soffit.
 - .2 LUXYSHIELD™ 15 year limited finish warranty guarantees against cracking, chalking, colour retention, gloss retention, and adhesion.
- .2 Provide a signed copy of manufacturer’s warranty with all necessary information filled out in the manufacturer’s official form for warranty registration.

Part 2 PRODUCTS

2.1 MANUFACTURER LUXYCLAD®, 76 Ridley Road St.

- .1 Catharines, Ontario L2S 3Y8 Canada
Tel: 1 877 255 1022, www.luxyclad.com

2.2 EXTRUDED ALUMINUM SIDING AND SOFFIT

- .1 4” V-Groove Siding and Soffit
 - .1 Material: 6063-T5 alloy extruded aluminum
 - .2 Finish: Selected by owner’s representative from manufacturer’s range
 - .1 Solid colour and metallic finishes: Powder-coated finish [per AAMA 2604, AAMA 2605].
 - .2 Decorative finishes [i.e. wood grain]: Powder-coated base finish [per AAMA 2604, AAMA 2605] with sublimated finish.
 - .3 Thickness: 13 gauge (aluminum)
 - .4 Size: 4” (101.6mm) profile face @ 24’ (7315.2mm) lengths
- .2 6” V-Groove Siding and Soffit
 - .1 Material: 6063-T5 alloy extruded aluminum Finish:
 - .2 Selected by owner’s representative from manufacturer’s range
 - .1 Solid colour and metallic finishes: Powder-coated finish [per AAMA 2604, AAMA 2605].
 - .2 Decorative finishes [i.e. wood grain]: Powder-coated base finish [per AAMA 2604, AAMA 2605] with sublimated finish.
 - .3 Thickness: 11 gauge (aluminum)
 - .4 Size: 6” (152.4mm) profile face @ 24’ (7315.2mm) lengths
- .3 6” Channel Siding and Soffit
 - .1 Material: 6063-T5 alloy extruded aluminum Finish:
 - .2 Selected by owner’s representative from manufacturer’s range
 - .1 Solid colour and metallic finishes: Powder-coated finish [per AAMA 2604, AAMA 2605].
 - .2 Decorative finishes [i.e. wood grain]: Powder-coated base finish [per AAMA 2604, AAMA 2605] with sublimated finish.

- .4 4" Perforated V-Groove Soffit
 - .1 Material: 6063-T5 alloy extruded aluminum
 - .2 Finish: Selected by owner's representative from manufacturer's range
 - .1 Solid colour and metallic finishes: Powder-coated finish [per AAMA 2604, AAMA 2605]. Decorative
 - .2 finishes [i.e. wood grain]: Powder-coated base finish [per AAMA 2604, AAMA 2605] with sublimated finish.
 - .3 Thickness: 13 gauge (aluminum)
 - .4 Size: 4" (101.6mm) profile face @ 12' (3657.6mm) lengths

2.3 ACCESSORIES

- .1 Trim Pieces, 6063-T5 alloy extruded aluminum @ 12' (3657.6mm) lengths
 - .1 1.7" Flat Cap
 - .2 1.7" Flat Cap Base
 - .3 1.7" Finishing Strip Cap
 - .4 1.7" Finishing Strip Base
 - .5 J-trim
 - .6 1" Inside Corner Cap
 - .7 1" Inside Corner Base
 - .8 1.7" Outside Corner Cap
 - .9 1.7" Outside Corner Base
 - .10 1" Outside One Piece Corner
 - .11 1" Precision J-Trim
 - .12 1" Precisor J-Trim Base + Cap
 - .13 1" Precision J-Trim Starter Strip
 - .14 1" Precision Finishing Cap + Base
 - .15 1" Precision Outside Corner + Base
- .2 Other Components, 6063-T5 alloy extruded aluminum @ 12' (3657.6mm) lengths
 - .1 4" Splicer Support
 - .2 6" Splicer Support
 - .3 Starter Strip

- .3 Rain Screen Clips, 6063-T5 alloy extruded aluminum @ 1" (25.4mm) lengths
- .4 Touch Up Pen, Light or Dark Brown
- .5 Fasteners: 1-1/2" length, #8 screw with corrosion resistance suitable for the application and climate.
- .6 Girt System: Hilti MFT-FOX T (Thermally Broken) or MFT-MFI Aluminum Cladding Support System. The substructure consists of adjustable brackets with up to 40 mm (1.5") of adjustability for site leveling. The MFT-FOX T system features integrated 50% glass-fiber reinforced thermal breaks to virtually eliminate thermal bridging, meeting Passive House levels of efficiency. Brackets and profiles are fabricated from 6000 series aluminum alloy (6063-T6 or 6005A-T6) and installed using Hilti S-AD self-drilling stainless steel fasteners in accordance with Hilti's Rainscreen Application Guide and project-specific engineering.
- .7 Insulation:
 - .1 Board Insulation as specified in Section 07 21 13
 - .1 Urethane (Isocyanurate): Faced, to CAN/ULC-S704 foil facing, RSI 1.05 per 25mm, total thickness as indicated on drawings.
 - .2 Mineral fibre board: to CAN/ULC-S702, Type 2, semi-rigid, density 17.6 kg/m2 , flexible spinbonded olefin facing, RSI 0.70 per 25mm, total thickness as indicated on drawings.
 - .3 Extruded polystyrene (XPS): to CAN/ULC S701 Type 3, RSI 0.88 per 25mm, total thickness as indicated on drawings.
 - .2 Blanket Insulation as specified in Section 07 21 16
 - .1 Semi-rigid mineral wool batt insulation to CAN/ULC S702 Type 3, density of 70 kg/m3, RSI 0.74 per 25mm, meeting requirements of CAN/ULC S114-M non-combustible, total thickness as indicated on drawings.
 - .3 Sprayed Insulation - Polyurethane Foam as specified in Section 07 21 29
 - .1 Spray polyurethane foam to CAN/ULC S705.1, thickness and RSI value as indicated on drawings.

- .8 Air Barrier: Self-adhering membrane as specified in Section 07 21 13.

2.4 FABRICATION

- .1 Prepare surfaces, pre-treat, and coat components in accordance with AAMA 2604 and AAMA 2605 Quality Standards.
- .2 Fabricate and finish all extruded aluminum cladding profiles and accessories to highest quality and greatest possible extent, using manufacturer's standards, procedures, and processes. Comply with characteristics of indicated profiles with dimensional and structural requirements, and sufficient support and allowance for movement.
- .3 Fabricate entire cladding system true, plumb and square, with no oil-canning or deformity that detracts from aesthetic appearance, and with powder-coating and sublimation processes applied properly to manufacturer's standards.
- .4 Properly wrap and package product using methods suitable for transit and covered site storage without damage.

Part 3 EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS Compliance:

- .1 comply with manufacturer's literature, including recommendations and instructions for installation, handling and storage, data sheets, and warranties.

3.2 PREPARATION

- .1 Obtain dimensions and material take off measurements from job site before ordering product and fabricating material.
- .2 Ensure structural support is properly aligned, installed correctly, and condition is acceptable and ready to receive cladding system. Review drawings that indicate areas to be clad with system.
- .3 Building surfaces shall be smooth, straight, aligned, clean, dry, and free from defects detrimental to the flush and proper installation of the aluminum siding system. Notify Contractor of conditions not acceptable for installation of the system.



- .4 Inspect product before installation and verify that there is no shipping damage. Ensure proper handling and storage of all material.
- .5 Do not install any damaged or questionable product; repair or replace as required for smooth, consistent, and high quality finished appearance.

3.3 INSTALLATION

- .1 Ensure the requested amount of product has been received. Notify the manufacturer if order has not been properly filled.
- .2 Install cladding and components in accordance with CAN/CGSB 93.5, project drawings, and manufacturer's installation instructions.
- .3 Ensure continuity of building envelope air barrier and vapor barrier systems.
- .4 Do not install over cementitious materials, dissimilar metals, or pressure treated material without adequate barrier protection.
- .5 Install starter strips, trim and corner base pieces, one piece corners, j-trims, and flashings as required, in accordance with best practice, with all members plumb and true.

- .6 Install siding and soffit material as required, maintaining joints are true to line, tight fitting, hairline joints. Locate joints over supports or use splicer piece as required to ensure structural stability. Fasten to supports using rain screen clips in an aligned, level, and plumb manner, using spacing recommended by manufacturer's installation instructions.
- .7 Install trim and corner cap pieces.
- .8 Fasten and install components in a manner that does not restrict thermal movement. Coordinate installation with flashings and other outside components that relate to the cladding system.
- .9 Install expansion control joints where indicated.
- .10 Caulk necessary areas with sealant that is in accordance with Section 07 92 00 - Joint Sealing.
- .11 Apply isolation coating if areas of contact between dissimilar metals is otherwise unavoidable.
- .12 Use the appropriate coloured touch up pen to cover cut ends of exposed aluminum.

3.4 FIELD QUALITY CONTROL

- .1 Ensure review of work is in accordance with manufacturer's literature.
- .2 Review instructions for installation, cleaning, handling, storage, and data sheets and warranties. Review entire install area for obvious flaws, defects, or improper installation. Repair or replace any problem areas, paying close attention to the substrate as a potential cause of any problems.
- .3 It is recommended that scheduled site visits occur at the following stages:
 - .1 After delivery and storage of products, and before installation begins when preparation Work is complete.
 - .2 Twice during progress of work at 25% and 60% complete.
 - .3 Upon completion of Work, after area is cleared and cleaned. Submit reports to Consultant within three days of review.

3.5 CLEANING

- .1 Perform cleaning after installation in order to remove accumulated construction and environment dirt and debris, following manufacturer's instructions. Upon completion of installation, remove surplus materials, rubbish, tools, and equipment barriers.
- .2

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