

Aluminum Rainscreen Cladding

PART 1 – GENERAL

1.01 General Requirements

- .1 Comply with General Conditions of Contract. Supplementary Conditions and the requirements of Division 1.

1.02 Related Sections

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|----|---|-----------------|
| .1 | Structural steel supports | Section [05100] |
| .2 | Cold formed metal framing | Section [05400] |
| .3 | Air/Vapour barrier section | Section [07270] |
| .4 | Roof and Fascia Flashing | Section [07500] |
| .5 | Sealing between metal and
[concrete] [masonry] | Section [07900] |
| .6 | Metal doors and frames | Section [08100] |
| .7 | Windows | Section [08500] |

1.03 Design Requirements

SPEC. NOTE: *For 1.3.1 insert expected temperature range for locality of building including allowance for skin temperature heat gain in sunlight on colored surface.*

- .1 Design Cladding system to provide thermal movement of component materials caused by ambient temperature range of [___ C F] without causing buckling, wind rattle, undue stress on fasteners or other detrimental effects.
- .2 Include expansion joints to accommodate movement in wall system and building structure, caused by structural movements, without permanent distortion.
- .3 Design members to withstand dead load and wind loads as calculated in accordance with NBC and applicable municipal regulations, to maximum allowable deflection of 1/180 of span.
- .4 Provide for positive drainage of condensation and water entering at joints, to exterior face of wall in accordance with [NRC "Rain Screen Principles"].
- .5 Design wall system to accommodate specified erection tolerances of structure.
- .6 Maintain the following tolerances:
 - .1 Maximum variation from plane or location shown on approved shop drawings: [10mm/m (3/8" per 300'-0")] maximum.
 - .2 Maximum offset from true alignment between two adjacent members abutting end to end, in line: 0.75mm (1/32").

1.04 Shop Drawings

- .1 Submit stamped shop drawings in accordance with Section [01340].
- .2 Indicate dimensions, wall openings, head, jamb, sill and mullion detail, materials and finish, anchor details, compliance with design criteria and requirements of related work.

1.05 Samples

- .1 Submit duplicate [_____] x [_____] mm (in.) samples of wall system, representative of materials, finishes and colors, in accordance with Section [01340] for approval.

1.06 Quality Assurance

- .1 Qualification of Installer
Installation of cladding system to be by work forces approved by Kanalco Ltd.

1.07 Mock-Ups

- .1 Provide mock-up on building consisting of complete cladding system, including but not limited to metal furring, panels, securement devices, and moldings for approval. Cladding finish and moldings to be of finish and color as designated by the [Consultant] [Architect].
- .2 Location of mock-up to be directed by [Consultant] [Architect] approval. Size to be four panels minimum in a 2 over 2 configuration.
- .3 Modify mock-up as necessary for [Consultant] [Architect] approval. Mock-up [may] [may not] remain in place as part of completed work. Mock-up to represent standard for completed work.

1.08 Storage and Protection

- .1 Handle, store and protect materials in accordance with Kanalco Ltd.'s written instructions.

1.09 Maintenance Data

- .1 Provide maintenance data for care and/or panel replacement for incorporation into operation and maintenance manual specified in Section [01730].

PART 2 – PRODUCTS

SPEC. NOTE: *If more than one type panel, thickness size, or color is required, specify type, etc. and ensure drawings or specifications indicate location of each type.*

2.01 Materials

- .1 Metal building panels: Kanalco Aluminum Rainscreen cladding, preformed, custom fabricated aluminum to CAN/CGSB 93.1M, 3mm (.125") thick, [915mm x 915mm 93'-0" x 3'0"] panel size, as manufactured by Kanalco Ltd.
- .2 Panel finish: Architectural [Class 1, 20 μ m (.0007")] [Class 2, 10 μ m (.0004)] [clear] [____ color] as selected.
- .3 Trim and coping: 3mm (.125") aluminum, to match cladding system.
- .4 Sub-girts: 1.2mm (12 ga.) zinc coated steel, to ASTM A525 with Grade A coating to ASTM Z275.
- .5 Flashings: base, window head, metal closure, and similar flashings to be 1.5mm (.062") thick aluminum, finish to match cladding system.

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- .6 Fasteners: self-tapping s.s screws to CSA B35.3-1962, purpose made.
- .7 Sealants: (non-exposed) in accordance with Section [07900], paragraph [____], [____type] [____] color as selected by [Consultant] [Architect].
- .8 Isolation coating: [alkali resistant] [bituminous paint] [epoxy resin solution].
- .9 Support angles, brackets, etc.: hot dipped galvanizing with zinc coating [600 g/sq.m] [3.4 mils] to CSA G164-M1981 or ASTM A123-84.

2.02 Fabrication

- .1 Panels fabricated by Kanalco Ltd., with [welded] [non-welded] corners, in accordance with specifications and approved shop drawings.
- .2 Maximum allowable fabrication tolerances to be:
 - .1 Panel bow: 0.2% of panel dimensions up to 4.7mm (0.187") maximum.
 - .2 Width or length: +/- 0.80 mm (0.032") up to 1220mm (48") +/- 1.5mm (0.064") from 1220mm to 3360mm (48" to 144").
 - .3 Squareness: Maximum 4.7mm (0.187") difference between diagonal measurements.
- .3 Form all panels to specified dimensions with tolerances to accommodate thermal expansion and contraction between panels and structural members. Accurately form radii of curved panels in plant.
- .4 Factory fabricate accessory and trim components, ready for installation.

PART 3 – EXECUTION

3.01 Inspection

- .1 Prior to installation examine alignment of substrate and notify [Consultant] [Architect] in writing if substrate does not comply with manufacturer's recommendations.

3.02 Installation

- .1 Install cladding in accordance with manufacturer's written instructions and shop drawings. Allow for thermal movement.
- .2 Maintain following installation tolerances:
 - .1 Maximum variation from plane or location shown on shop drawings: 10mm/10m (3/8" in 30'-0") of length and up to 20mm/100m (3/4" in 300' - 0") maximum.
 - .2 Maximum deviation for horizontal member: 3mm (1/8") in an 8.5m (25'-0") run.
 - .3 Maximum offset from true alignment between two adjacent members abutting end to end, in line: 0.75mm (1/32").
- .3 Brake form metal flashings to profile required, in maximum lengths.
- .4 Protect surface of metals in contact with concrete, mortar, plaster, or other cementitious surface with isolation coating.
- .5 Install head and sill flashings, edge trim, cap pieces and other metal profiles as applicable and/or detailed.
- .6 Obtain panel symmetry in both vertical and horizontal plane whenever possible.
- .7 Employ [control] [expansion] joints as indicated.
- .8 Remove excess sealant using recommended solvent.

3.03 Cleaning

As work progresses, remove any excess or foreign materials, which would set up or

become difficult to remove from finished surfaces.

PART 4 – MATERIAL VARIATIONS

4.01 Submission Format

- .1 Alternate materials will only be considered if applied for in writing to the consultant.
- .2 Sufficient time must be given to evaluate alternate materials in order for the consultant “to issue an addendum if approval is granted”. Addendum to be issued not less than 7 working days prior to tender closing.
- .3 The party requesting alternate product approval must submit as follows:
 - .1 Name and description of product and manufacturer.
 - .2 Name and address of 3 similar projects.
 - .3 Name and address of consultants and General Contractors for these projects.
 - .4 Product mockup showing 4-panel intersection clearly detailing assembly.
 - .5 Each and every detail, which would be considered different or not equal to that which is specified and detailed.
 - .6 Any disclaimers or exclusions.
 - .7 Be willing to co-ordinate and accompany consultants to visit any or all of the 3 listed reference projects.
- .4 Proposed alternates may be rejected by the consultant without justification even if they have forwarded all the requested items.
- .5 Proposed alternates submitted within 7 days of closing or after closing will not be considered.

END OF SECTION