

PART 1 - GENERAL

1.1 REFERENCE STANDARDS

- .1 American Society for Testing and Materials International (ASTM)
 - .1 ASTM D523-14, Standard Test Method for Specular Gloss.
- .2 Canadian General Standards Board (CGSB)
 - .1 CGSB 19-GP-14M-76(R1984), Sealing Compound, One Component, Butyl-Polyisobutylene Polymer Base, Solvent Curing.
- .3 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Safety Data Sheets (SDS).

1.2 DESIGN REQUIREMENTS

- .1 Design metal cladding to allow for thermal movement of component materials caused by variation in ambient temperature range of 80 degrees C without causing buckling, failure of joint seals, undue stress on fasteners or other detrimental effects.
- .2 Maximum deviation from vertical and horizontal alignment of erected panels: 1 to 1000.

1.3 SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00.
- .2 Product Data:
 - .1 Submit manufacturer's printed product literature for cladding system materials, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit two copies WHMIS SDS - Safety Data Sheets.
- .3 Shop Drawings:
 - .1 Shop drawings: submit drawings stamped and signed by professional engineer registered or licensed in Province of Ontario, Canada.
 - .2 Indicate dimensions and thickness of panels, fastening and anchoring methods, detail and location of joints and gaskets, thermal movement provision, wall openings, head, jamb and sill details, materials and finish, compliance with design criteria and requirements of related work.
- .4 Samples:
 - .1 Submit duplicate 100 x 100 mm samples of wall and soffit system, representative of materials, finishes and colours.
- .5 Quality assurance submittals: submit following in accordance with Section 01 45 00.
 - .1 Certificates: submit certificates signed by manufacturer certifying that aluminum wall panels comply with specified performance characteristics and physical properties.

.2 Manufacturer's Instructions: submit manufacturer's installation instructions and special handling criteria, installation sequence, and cleaning procedures.

1.4 QUALIFICATION

- .1 Manufacturer: company specializing in producing aluminum wall panels with sufficient capacity to produce and deliver required units without causing delay in work.
- .2 Installer: person specializing in aluminum wall panel installations approved by manufacturer.
- .3 Mock-ups: construct mock-ups in accordance with Section 01 45 00 and to requirements supplemented as follows:
 - .1 Provide mock-up for evaluation of surface finishes and workmanship.
 - .2 Provide initial production units for job-site assembly with other materials for review.
 - .3 Co-ordinate type and location of mock-ups with project requirements.
 - .4 Accepted units will be used as standard for acceptance of production units.
 - .5 Remove and replace units which are not accepted.
 - .6 Do not proceed with remaining work until workmanship, colour, and finish are reviewed by Departmental Representative.
 - .7 Refinish mock-up area as required to produce acceptable work.
 - .8 When accepted, mock-up will demonstrate minimum standard of quality required for this work.
 - .1 Approved mock-up may remain as part of finished work.
 - .2 Remove mock-up and dispose of materials when no longer required and when directed by Departmental Representative.
- .4 Pre-Installation Meetings: convene pre-installation meeting one week prior to beginning work of this Section, with contractor's representative and Departmental Representative in accordance with Conditions of the Contract to:
 - .1 Verify project requirements.
 - .2 Review installation and substrate conditions.
 - .3 Co-ordination with other building sub-trades.
 - .4 Review manufacturer's installation instructions and warranty requirements.

1.5 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00.
- .2 Deliver, store and protect material in accordance with panel manufacturer's recommendations.
- .3 Do not expose panels with strippable film to direct sunlight or extreme heat.
- .4 Waste Management and Disposal: Separate waste materials for reuse and recycling in accordance with Section 01 74 19.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Sheet aluminum panels:
 - .1 Thickness: 3 mm.
 - .2 Alloy: AA-3003.
 - .3 Profile depth: 25 mm.
- .2 Aluminum extrusions: alloy AA-6063-T5.
- .3 Concealed sealants: one-component, butyl-polyisobutylene polymer base, solvent curing to CGSB 19-GP-14M.
- .4 Exposed sealants: one-component, silicone base, solvent curing, colour to match panel.
- .5 Fasteners: aluminum extrusion, type continuous edge grip, concealed in accordance with manufacturer's recommendations.

2.2 FABRICATION

- .1 Fabricate facings and concealed support members in a manner which will provide an installation free of exposed fastenings, with sufficient support and allowance for thermal movement to prevent facing distortion. Take site measurements before proceeding with production.
- .2 Fabricate components of the system at factory, ready for field installation. Include full continuous joint reveals within system.
- .3 Fabricate facings flat, true, free of marks, without visible distortion and with edges straight and true. Make all planes true, and corners square and bend of minimum radius.
- .4 Provide proprietary aluminum extrusions to manufacturer's standard profiles for a complete installation. Extrusions shall be full length around panel perimeter for panel reinforcement and alignment. Intermittent clips are unacceptable.
- .5 Tolerances:
 - .1 Panel bow: maximum 0.8% of panel dimension in width and length.
 - .2 Panel dimensions: where final dimensions cannot be established by field measurement before completion of panel manufacturing, make allowance for field adjustments as recommended by manufacturer.
 - .3 Panel lines, breaks and angles: sharp, true and surfaces free from warp or buckle.

2.3 PAINTED FINISHES

- .1 Prefinished sheet with factory applied four coat PVDF coating.
 - .1 Class F1S.
 - .2 Premium colour to be selected by Departmental Representative from manufacturer's full colour range.

- .3 Specular gloss: 30 units +/-5 in accordance with ASTM D523.
- .4 Coating thickness: not less than 30 micrometres.
- .5 Resistance to accelerated weathering for chalk rating of 8, colour fade 5 units or less.

PART 3 - EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 EXAMINATION

- .1 Before installation examine alignment of substrate and notify Departmental Representative in writing if substrate does not comply with requirements of panel installer.

3.3 INSTALLATION

- .1 Install aluminum panels, soffits, support and anchoring system, fasteners, trim and related items to lines and elevations indicated and in strict accordance with reviewed shop/erection drawings and manufacturer's printed instructions. Carefully co-ordinate work with other Sections.
- .2 Anchor component parts to transmit wind loading and other stresses to anchorage system.
- .3 Maintain following installation tolerances:
 - .1 Maximum variation from plane or location shown on shop drawings: 10 mm/10 m of length and up to 20 mm/100 m.
 - .2 Maximum deviation for vertical member: 3 mm in an 8.5 m run.
 - .3 Maximum deviation for a horizontal member: 3 mm in an 8.5 m run
 - .4 Maximum offset from true alignment between two adjacent members abutting end to end, in line: 0.75 mm.
- .4 Install all exposed work of this Section with concealed clips and fasteners. Exposed fasteners not acceptable.
- .5 Install all metal flashings within and at bottom of metal panel system.
- .6 Ensure drainage of any moisture which may occur within the system to the exterior.
- .7 Damaged panels, waviness, warp or distortion of finished work will not be accepted.
- .8 Completed installation shall be free from rattles, wind whistles, noise due to thermal movement and other noises.
- .9 Install metal materials during suitable weather conditions only.

.10 Remove strippable coating from panels as they are erected.

3.4 CLEANING

.1 Proceed in accordance with Section 01 74 00.

.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.