

PART 1 – GENERAL

1.1 – GENERAL REQUIREMENTS

1. Division 1, General Requirements, Supplementary General Requirements and Instruction to bidders are part of this specification and shall apply as if repeated here.
2. The requirements for Goods and Services Tax and Provincial Sales Tax are outlined in the General Requirements.

1.2 – SCOPE OF WORK

1. Furnish all materials, labor, equipment and services, necessary for the detailed design, erection drawings, shop drawings, fabrication and erection of the complete roof deck as shown or called for in the tender documents.
2. Supply and install accessories where shown or called for by the tender documents.
3. Cut and reinforce penetrations through the roof deck, between 6 inch to 18 inch diameter or maximum dimension across the flutes, as shown on the architectural or structural drawings.

1.3 – SHOP DRAWINGS

1. Submit erection drawings in accordance with General Conditions.
2. Erection drawings shall show clearly the location of various deck units, section designations, finishes, quantities, fastener specifics, shear diaphragm capacities (if required) and any other information required for erection purposes.
3. Shop drawings shall be signed and sealed by a Specialty Engineer, a Registered Engineer familiar with sheet metal panels components and systems.
4. The Specialty Engineer shall submit the required documentation covering the specified work and conduct field inspections as he deems to be required to assure work is performed in accordance with the shop drawings.

1.4 – WORK NOT INCLUDED

1. Structural steel beams, joists or purlins, or other supports, for roof deck.
2. Structural framing, or reinforcement, for roof openings larger than 18 inches across flutes or areas of concentrated point loads.
3. Perimeter roof angles.
4. Gutters, downspouts, coping trim, cant or parapet flashing, unless shown or called for on the tender documents as being supplied by this division.
5. Vapor barriers, insulation or roof membranes.
6. Shear loading or deflection calculations for steel deck diaphragms. (To be provided by Primary Structural Engineer)

1.5 – STANDARDS

1. Design roof deck in accordance with the latest edition of:
 - i. CAN/C.S.A. – S 136 for the Design of Cold Formed Steel Structural Members.
 - ii. Specified loads, load factors and load distributions shall be in accordance with the National Building code of Canada unless otherwise stated.

SPECIFICATIONS FOR ROOF DECK

Page 2 of 3

1.6 – DESIGN CRITERIA

1. Design the roof deck using Limit States Design.
2. Design the roof deck to resist:
 - i. Live and dead loads as specified and shown on tender drawings.
 - ii. Net uplift and suction loads as specified and shown on tender drawings.
3. Deflection of the roof deck is not to exceed 1/240 of the span for the specified live loading.
4. Where possible, span deck over four or more structural supports (3 continuous spans).
5. If shear diaphragm is required, ensure adequate shear capacity using CSSBI B13-06 Design of Steel Deck Diaphragms — 3rd Edition. (modified $\phi = 0.6$ for mechanical fasteners)
6. The supporting structure shall provide the roof deck a minimum bearing width equal to the cladding profile depth, but not less than 1.5".

PART 2 – PRODUCTS

2.1 – MATERIALS

1. Manufacturer shall be a member of Good Standing with the Canadian Sheet Steel Building Institute (C.S.S.B.I.).
2. Fabrication from ASTM A653 / A653M SQ (structural quality) grade 230 galvanized steel zinc with a coating as designated by ASTM A653 / A653M.
3. Profile designation shall be Samson _____ complete with Metallic Coating
Classification _____.
4. Minimum design thickness shall be _____ mm (_____ in).
5. Trim shall be fabricated from the same material, thickness and finish as the respective roof deck.
6. E.P.T. or fire rated closures shall be provided, where indicated on the tender documents, to close off the flutes of the roof decking at wall locations.
7. For pre-painted roof decks mechanical fasteners for attaching roof deck to structural framing or other structural supports and for joining roof deck components together shall be as recommended by the Specialty Engineer.

PART 3 – EXECUTION

3.1 STORAGE OF MATERIAL ON SITE

1. Steel sheet cladding shall normally be delivered to the jobsite as required for erection, but if site storage becomes necessary, suitable storage areas shall be provided by the general contractor as close to the building site as is practicable. Preferably this storage shall be under cover.
2. When outdoor storage is unavoidable:
 - a. Use good quality covers, other than plastic, loosely shrouded over stacks and firmly anchored to prevent wind blow-off;
 - b. Tilt bundles for drainage;
 - c. Ventilate bundles but do not allow the entry of wind driven precipitation;
 - d. Block bundles off ground for effective ventilation;
 - e. Block bundles to prevent sagging;
 - f. Store away from chemically aggressive substances (e.g. salt, cement, fertilizer) away from materials that could contaminate the surface (e.g. diesel oil, paint, grease) and away from traffic.

3. Moisture can cause wet storage staining of metallic coated and pre-finished material and usually occurs as a result of:
- Condensation from high humidity air and/or temperature cycling;
 - Wet shipping conditions;
 - Wind driven rain penetration (outdoor storage).

The usual progression is from water staining to unsightly white staining (dark grey to dull black on aluminum-zinc alloy coated sheet) to red rust. On material where wet storage staining has occurred, it should be noted that, except for aesthetic considerations, a nominal amount of staining is not detrimental to the functioning of the product.

3.2 INSTALLATION

- All erection work shall be carried out by trained erection crews all in accordance with the fabricator's and these specifications.
- Examine and obtain all necessary measurements of previously executed work which will affect the work of this Division.
- Report any discovered discrepancies to the Architect/Engineer so that instructions can be given for the necessary remedial work.
- Exercise care in unpacking, moving, storing, handling and placing panels to prevent damage likely to impair the adequacy or appearance of the material in the finished structure.
- Roof decking shall be adjusted to final position before being permanently fastened to structural supports.
- End laps shall be located over supports. Minimum end laps shall be a minimum 50mm (2 inch).
- All Metallic Coated roof deck products will be secured to the structural steel by 20mm (3/4 inch) diameter arc spot welds at not more than 410mm (16 inch) centers or mechanical fasteners as specified in the shop drawings.
- All welding will be by workers holding a current Canadian Welding Bureau Certification.
- All welds to be touched up, on the upper side only, with zinc rich primer.
- All side laps shall be mechanically clinched together at not more than 600mm (24 inch) centers, or screw fastened, or welded as specified in the shop drawings.
- Openings, and any necessary flashing, shall be provided as called for by the tender documents.
- If additional openings not shown or called for by the tender documents are required, such openings shall be cut and reinforced (to 450mm (18 inch) maximum) by the erector, but the cost of such extra work shall be charged to the buyer. Openings larger than 450mm shall be reinforced by a Structural Steel Subtrade.

3.3 CLEAN UP

- At completion of the work of this Division, remove any excess materials, debris and equipment pertaining to the work of this Division, from the site.