

**Part 1 General**

**1.1 RELATED SECTIONS**

- .1 Section 01 74 19 – Construction/Demolition Waste Management and Disposal
- .2 Section 08 31 16 – Access Panels
- .3 Section 09 29 00 – Gypsum Board

**1.2 REFERENCES**

- .1 American Society for Testing and Materials (ASTM):
  - .1 ASTM A653/A653M-10 – Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process, Commercial Quality
- .2 Canadian Government Standards Association (CGSB):
  - .1 CAN/CGSB 7.1-98 – Lightweight Steel Wall Framing Components
  - .2 CAN/CGSB 19.21-M87 – Sealing and Bedding Compound, Acoustical
- .3 Wall and Ceiling Contractors of British Columbia:
  - .1 Wall and Ceiling Specification Standards Manual, hereinafter (in this Section) is referred to as the Standards Manual.

**1.3 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate and recycle waste materials in accordance with Section 01 74 19.
- .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal paper, plastic, corrugated cardboard, and other packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan.
- .4 Divert metal cut-offs from landfill by disposal into on-site metal recycling bin.
- .5 Do not dispose of unused caulking materials into sewer systems, onto ground or in other locations where it will pose health or environmental hazard.

**1.4 DELIVERY, STORAGE, AND HANDLING**

- .1 Handle materials to avoid damage and deliver materials to project site in original unopened packages, containers, or bundles bearing the brand name and manufacturer's identification.
- .2 Store materials in dry location with ventilation and in such a manner to permit easy access for inspection and handling.

## **Part 2 Products**

### **2.1 WALL FRAMING COMPONENTS**

- .1 Steel studs: roll formed from ASTM A653/A653M, Grade A commercial quality sheet steel; minimum Z120 galvanized coating; complying to the following:
  - .1 To CAN/CGSB 7.1-98.
  - .2 Metal thicknesses before galvanizing: to comply with Table 9.7/5 – Metric of the Standards Manual for L/240 deflection at 360 Pa lateral load, with the following exceptions:
    - .1 Jambs and headers for pressed steel door and frame assemblies (including borrowed lights): 0.91 mm.
    - .2 Top track of double ceiling track: 0.91 mm.
  - .3 Stud flange depth: minimum 32 mm.
  - .4 Track leg height: minimum 32 mm.
  - .5 Top track (for deflection) leg height: minimum 75 mm.
  - .6 Studs with knurled faces, and flange returns or lips to have properly hemmed edges; tracks with hemmed edges; track width to equal stud width; studs with pre-punched holes in webs for wiring and horizontal bracing members.
- .2 Bracing/reinforcing channels: 12 mm x 12 mm x 1.5 mm thick cold rolled channels; galvanized to ASTM A653/A653M with minimum Z120 coating.
- .3 Screws: self-drilling, self-tapping flat head type; minimum 10 mm diameter; corrosion resistant type with cadmium or zinc coating.
- .4 Fasteners: corrosion resistant type with cadmium or zinc coating; complying with the following:
  - .1 For anchoring to concrete and masonry: minimum 10 mm diameter self-drilling, self-tapping screws; predrilled.
  - .2 For anchoring to supporting steel structures: minimum 10 mm diameter self-drilling, self-tapping screws, or structural quality through-bolts; predrilled.

### **2.2 SUSPENDED CEILING COMPONENTS**

- .1 Main runner channels: 12 mm x 38 mm x 1.5 mm thick; Grade A commercial quality sheet steel with minimum Z120 coating.
- .2 Cross furring channels: hat-shaped; roll formed from 0.46 mm thick, Grade A commercial quality sheet steel with minimum Z120 galvanized coating to ASTM A653M; 68 mm overall width x 35 mm face width x 22 mm depth; knurled faces.
- .3 Fasteners: corrosion resistant type with cadmium or zinc coating; complying with the following:
  - .1 For anchoring to concrete: minimum 10 mm diameter self-drilling, self-tapping screws; predrilled.
  - .2 For anchoring to supporting steel structures: minimum 10 mm diameter self-drilling, self-tapping screws, or structural quality through-bolts; predrilled.

- .4 Hangers: 3.6 mm diameter galvanized wire, or 4.8 mm diameter zinc or cadmium plated steel round rods in accordance with rust inhibitive coating.
- .5 Hanger inserts: suitable to provide permanent anchoring of supported assemblies to each particular type of structure; inert types in accordance with Standards Manual.
- .6 Tie wire: double strand of 1.21 mm diameter galvanized soft annealed steel.

## **2.3 ACOUSTIC SEALS MATERIALS**

- .1 Acoustic sealant: sealing compound to CAN/CGSB 19.21.
- .2 Acoustic sealing strips: closed cell polyethylene foam; minimum 6 mm non-compressed thickness; of width equal to wall thickness.
- .3 Acoustic insulation: as specified in Section 07 21 16.

## **Part 3 Execution**

### **3.1 GENERAL INSTALLATION REQUIREMENTS**

- .1 For work pertaining to support systems, use the Standards Manual, together with authorized additions and amendments, as a reference standard. In case of conflict, between requirements specified in this Section and requirements specified in Standards Manual, the most stringent requirements apply and govern.
- .2 Install members true to lines and levels, and to provide surface flatness with maximum variation of 5 mm in 2 m in any direction.
- .3 Install ceiling framing rigidly secure in place with maximum deflection of  $L/270$ , subject to structural deflection limitations.
- .4 Install furring and framing to suit work by other trades that is required to be built into walls, and ceilings. Frame openings and frame around built-in items. Extend furring into reveals. Confirm all clearances.
- .5 Do not use powder-actuated fasteners to secure framing within 600 mm of wall ends and door openings. Where the use of powder-actuated fasteners is permitted, subject to Departmental Representative's acceptance, they shall be installed in accordance with manufacturer's directions, strictly observing minimum recommended edge distances for applicable substrate.

### **3.2 STEEL STUD INSTALLATION**

- .1 Provide full bearing between studs and tracks.
- .2 Install double studs at jambs at all door frames. At jambs for doors and borrowed lights, rigidly anchor double studs to floor and underside of deck above.
  - .1 In all instances, box studs at jambs and heads of pressed steel door and frame assemblies.

- .2 In all instances, install jamb studs continuously from floor to underside of overhead roof deck, and rigidly anchor studs to top and bottom tracks. Use sections of angle reinforcing at tracks to assist in the anchorage.
- .3 Install double studs at all corners.
- .4 Use screws to secure framed assemblies together, including head and sill tracks for openings in framed assemblies.
- .5 Secure framed assemblies to adjacent structures with fasteners spaced at maximum 600 mm o.c.
- .6 Install single row of horizontal bracing/reinforcing channels at top of walls, to provide additional bracing of wall construction. Set horizontal bracing/reinforcing channels wedged tight in wiring holes in studs. Cut and bend channel flanges at each stud to prevent lateral displacement of studs at bracing lines.

### **3.3 STEEL FRAME INSTALLATION**

- .1 Install pressed steel frames in proper locations, with hinge side, hinge face, and face of removable stops properly oriented.
- .2 Install frames plumb and well secured in place.
- .3 Install frames properly aligned and square, with maximum allowable distortion of 5 mm, corner to corner.

### **3.4 SUSPENDED CEILING INSTALLATION**

- .1 Install suspension systems to provide finished ceiling heights and profiles indicated. Erect after above ceiling work is complete. Coordinate location of hangers with other work.
- .2 Install furring independent walls, and above ceiling work. Securely anchor hangers to structural members, floor slabs and decking.
- .3 Space main carrying channels at maximum 1200 mm spacing, not more than 150 mm from perimeter edges. Lap splices minimum 300 mm and secure together 50 mm from each end of splice.
- .4 Securely fix carrying channels to hangers in a manner to prevent turning or twisting and to develop full strength of hangers.
- .5 Place furring channels perpendicular to carrying channels at maximum 400 mm spacing, not more than 50 mm from perimeter edges. Rigidly secure to carrying channels. Lap splices minimum 200 mm and secure together 25 mm from each end of splice.
- .6 Reinforce openings in suspension systems, which interrupt main carrying channels or furring channels, with lateral channel bracing. Extend bracing minimum 600 mm past each side of openings.

**3.5 FURRING AND FRAMING INSTALLATION**

- .1 Install furring as indicated or required to complete work.
- .2 Space members at maximum 400 mm, rigidly secured in place.

**3.6 ACOUSTIC SEALS INSTALLATION**

- .1 Install acoustic seals within wall construction to augment acoustic separation between rooms. Install a continuous double bead of acoustic sealant, one on each side of stud face, in the following locations:
  - .1 At junctions between floors and stud wall framing.
  - .2 At junctions between stud wall framing and exterior masonry walls.
  - .3 At junctions between stud wall framing and interior masonry walls.
- .2 Make acoustic beads minimum 12 mm diameter.
- .3 Allow Departmental Representative to review installation of acoustic seals before concealing them with gypsum board.

**END OF SECTION**