

PART 1            GENERAL

1.1    REFERENCES

- .1    American Society for Testing and Materials  
International (ASTM) ASTM C36/C36M-03,  
Specification for Gypsum Wallboard.
- .1    ASTM C36/C36M-03, Specification for  
Gypsum Wallboard.
  - .2    ASTM C475-12, Specification for Joint  
Compound and Joint Tape for Finishing  
Gypsum Board.
  - .3    ASTM C645-11, Specification for  
Nonstructural Steel Framing Members.
  - .4    ASTM C754-11, Specification for  
Installation of Steel Framing Members to  
Receive Screw-Attached Gypsum Panel  
Products.
  - .5    CAN/CGSB-1.40-97, Primer, Structural  
Steel, Oil Alkyd Type.
  - .6    ASTM C645-04A, Standard Specification  
for Non-Structural Steel Framing  
Members.
  - .7    ASTM C840-11, Specification for  
Application and Finishing of Gypsum  
Board.
  - .8    ASTM C1002-07, Specification for Steel  
Self-Piercing Tapping Screws for the  
Application of Gypsum Panel Products or  
Metal Plaster Bases to Wood Studs or  
Steel Studs.
  - .9    ASTM C1047-10, Specification for  
Accessories for Gypsum Wallboard and  
Gypsum Veneer Base.
  - .10   ASTM C475-02(2007), Standard  
Specification for Joint Compound and  
Joint Tape for Finishing Gypsum Board.
  - .11   ASTM C840-08, Standard Specification for  
Application and Finishing of Gypsum  
Board.
  - .12   ASTM C954-07, Standard Specification for  
Steel Drill Screws for the Application  
of Gypsum Panel Products or Metal  
Plaster Bases to Steel Studs From 0.033  
in. (0.84 mm) to 0.112 in. (2.84 mm) in  
Thickness.
  - .13   ASTM C1280-99, Standard Specification  
for Application of Gypsum Sheathing.
  - .14   ASTM C1396/C1396M-09a, Standard  
Specification for Gypsum Wallboard.
  - .15   ASTM D3273 Standard Test Method for  
Resistance to Growth of Mould.
  - .16   ASTM C1629-06 (2011) Classification for  
Abuse Resistant Non-Decorated Interior  
Gypsum Panel Products and Fibre  
Reinforced Cement Panels.
  - .17   ASTM C1278-07 (2011) Standard  
Specification for Fibre-Reinforced  
Gypsum Panel.

.18 ASTM C754-15 Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products

.2 Underwriters' Laboratories of Canada (ULC)  
 .1 CAN/ULC-S102-10, Surface Burning Characteristics of Building Materials and Assemblies.

.3 ANCI-13 Association of the Wall & Ceilings Industries International.  
 .1 Level of Gypsum board Finish

#### 1.2 DESIGN REQUIREMENTS

.1 Partition assembly to be non-combustible construction and where indicated to have fire resistance.

.2 Minimum sound transmission rating of installed panel partition to be STC 30, tested to ASTM E90.

#### 1.3 STORAGE AND HANDLING

.1 Store materials inside, level, under cover. Protect from weather, damage from construction operations and other causes, in accordance with manufacturer's printed instructions.

.2 Handle materials to prevent damage to edges or surfaces. Protect metal accessories and trim from being bent or damaged.

#### 1.4 AMBIENT CONDITIONS

.1 Maintain temperature 10 degrees C minimum, 21 degrees C maximum for 48 hours prior to and during application of gypsum boards and joint treatment, and for 48 hours minimum after completion of joint treatment.

.2 Apply board and joint treatment to dry, frost free surfaces.

.3 Ventilation: ventilate building spaces as required to remove excess moisture that would prevent drying of joint treatment material immediately after its application.

### PART 2 PRODUCTS

#### 2.1 NON-STRUCTURAL METAL FRAMING

.1 Non-load bearing channel stud framing: to ASTM C645, 64 and 92 mm stud size, roll formed from 0.53 mm thickness hot dipped galvanized steel sheet, for screw attachment of gypsum board. Knock-out service holes at

460 mm centres.

- .2 Floor and ceiling tracks: to ASTM C645, in widths to suit stud sizes, 32 mm flange height.
- .3 Metal channel stiffener: 19 x 1.4 mm thick cold rolled steel, coated with rust inhibitive coating.
- .4 Furring and blocking as required and as noted on drawings.

## 2.2 GYPSUM BOARD

- .1 Standard gypsum board, mold & moisture resistant, gypsum sheathing board: to ASTM C1658, Type X, 16 mm thick, 1220 mm wide x maximum practical length, ends square cut, edges bevelled, as manufactured by:
  - .1 Georgia Pacific Tough Rock Mold Guard Gypsum Board.
  - .2 CGC Aqua Tough Interior Panel.
  - .3 Certainteed M2Tech® Moisture & Mold Resistant Gypsum Board
- .2 Fibreglass mat water resistant gypsum interior sheathing board: to ASTM C1658, Type X, 16 mm thick, 1220 mm wide x maximum practical length, ends square cut, edges bevelled.
- .3 Cavity shift wall liner: 25.4mm thick gypsum board component of cavity shaft wall system for 3/4 or 1 hr rated system.
- .4 Metal furring runners, hangers, tie wires, inserts, anchors.
- .5 Drywall furring channels: 0.5 mm core thickness galvanized steel channels for screw attachment of gypsum board.
- .6 Steel drill screws: to ASTM C1002.
- .7 Casing beads, corner beads, control joints and edge trim: to ASTM C1047, metal, zinc-coated by hot-dip process zinc-coated by electrolytic process 0.5 mm base thickness, perforated flanges, one piece length per location.
- .8 Joint compound: to ASTM C475, asbestos-free.
- .9 Skim coat: thin coat of joint compound trowel applied or material manufactured as preparation for gypsum board finish.

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| <u>2.3 ACCESSORIES</u> | .1 | Acoustical insulation : Mineral fibre insulation to CAN/ULC-S702-97 Type 1, density 40 kg/m <sup>3</sup> , fabricated from basalt rock and slag .                            |
|                        | .2 | Acoustic sealant: To ASTM C919.  |
|                        | .3 | Insulating strip: rubberized, moisture resistant, 3 mm thick closed cell neoprene strip, 12 mm wide, with self sticking permanent adhesive on one face, lengths as required. |
|                        | .4 | Polyethylene film: to CAN/CGSB 51.34, 0.15 mm thick for vapour barrier.  |
|                        | .5 | Joint sealing tape: air resistant pressure sensitive adhesive tape, 50 mm wide for lap joints and perimeter seals, 25 mm wide elsewhere.                                     |
|                        | .6 | Sealant: compatible with vapour retarder materials, recommended by vapour retarder manufacturer.   |

PART 3 EXECUTION

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| <u>3.1 ERECTION OF FRAMING</u> | .1 | Install steel framing members to receive screw-attached gypsum board in accordance with ASTM C754 except where specified otherwise.  |
|                                | .2 | Align partition tracks at floor and ceiling and secure at 600 mm on centre maximum.  |
|                                | .3 | Place studs vertically at 400 mm on centre and not more than 50 mm from abutting walls, and at each side of openings and corners. Position studs in tracks at floor and ceiling. Cross brace steel studs as required to provide rigid installation to manufacturer's instructions. |
|                                | .4 | Erect metal studding to tolerance of 1:1000.   |
|                                | .5 | Co-ordinate simultaneous erection of studs with installation of service lines. When erecting studs ensure web openings are aligned.  |
|                                | .6 | Provide two studs extending from floor to ceiling at each side of openings wider than stud centres specified. Secure studs together, 50 mm apart using column clips or other approved means of fastening placed  |

alongside frame anchor clips.

- .7 Install heavy gauge single jamb studs at openings.
- .8 Erect track at head of door/window openings and sills of sidelight/window openings to accommodate intermediate studs. Secure track to studs at each end, in accordance with manufacturer's instructions. Install intermediate studs above and below openings in same manner and spacing as wall studs.
- .9 Provide 40 mm stud or furring channel secured between studs for attachment of fixtures behind lavatory basins, toilet and bathroom accessories, and other fixtures including grab bars and towel rails, attached to steel stud partitions.
- .10 Install steel studs or furring channel between studs for attaching electrical and other boxes.
- .11 Extend partitions to underside of slab or to 100 mm above ceiling height as indicated.
- .12 Maintain clearance under beams and structural slabs to avoid transmission of structural loads to studs. Use double track slip joint.
- .13 Install continuous insulating strips to isolate studs from uninsulated surfaces.
- .14 Install insulating strip under studs and tracks at all slab on grade locations.
- .15 Install sheet vapour retarder on warm side of exterior wall assemblies prior to installation of gypsum board to form continuous retarder.
- .16 Inspect vapour barrier for continuity. Repair punctures and tears with sealing tape before work is concealed.
- .17 Cut sheet vapour retarder to form openings and ensure material is lapped and sealed to frame.
- .18 Seal perimeter of sheet vapour barrier. Apply continuous bead of sealant to substrate at perimeter of sheets. Lap sheet over sealant and press into sealant bead.
- .19 Ensure that no gaps exist in sealant bead. Smooth out folds and ripples occurring in

sheet over sealant.

- .20 Seal lap joints of sheet vapour barrier. Attach first sheet to substrate. Apply continuous bead of sealant over solid backing at joint. Lap adjoining sheet minimum 150 mm and press into sealant bead. Ensure that no gaps exist in sealant bead. Smooth out folds and ripples occurring in sheet over sealant.

### 3.2 ERECTION OF GYPSUM BOARD AND ACCESSORIES

- .1 Do application and finishing of gypsum board in accordance with ASTM C840 except where specified otherwise.
- .2 Erect hangers and runner channels for suspended gypsum board ceilings in accordance with ASTM C840 except where specified otherwise.
- .3 Support light fixtures by providing additional ceiling suspension hangers within 150 mm of each corner and at maximum 600 mm around perimeter of fixture.
- .4 Frame with furring channels, perimeter of openings for access panels, light fixtures, diffusers, grilles.
- .5 Install 19 x 64 mm furring channels parallel to, and at exact locations of steel stud partition header track.
- .6 Furr for gypsum board faced vertical bulkheads within and at termination of ceilings.
- .7 Furr above suspended ceilings for gypsum board fire and sound stops and to form plenum areas as indicated.
- .8 Install wall furring for gypsum board wall finishes in accordance with ASTM C840, except where specified otherwise.
- .9 Install mineral wool insulation and acoustic sealant in partitions indicated to correspond with tested assembly.
- .10 Install gypsum boards in direction that will minimize number of end-butt joints. Stagger end joints at least 250 mm.

### 3.3 APPLICATION

- .1 Do not apply gypsum board until bucks, anchors, blocking, sound attenuation, electrical and mechanical work are approved.

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- .2 Apply single and double layer gypsum board to metal furring or framing using screw fasteners. Maximum spacing of screws 300 mm on centre.
- .3 Apply 12 mm diameter bead of acoustic sealant continuously around periphery of each face of partitioning to seal gypsum board/structure junction where partitions abut fixed building components. Seal full perimeter of cut-outs around electrical boxes, ducts, in partitions where perimeter sealed with acoustic sealant.

#### 3.4 INSTALLATION

- .1 Erect accessories straight, plumb or level, rigid and at proper plane. Use full length pieces where practical. Make joints tight, accurately aligned and rigidly secured. Mitre and fit corners accurately, free from rough edges. Secure at 150 mm on centre using contact adhesive for full length.
- .2 Install casing beads around perimeter of suspended ceilings.
- .3 Install casing beads where gypsum board butts against surfaces having no trim concealing junction and where indicated. Seal joints with sealant.
- .4 Install insulating strips continuously at edges of gypsum board and casing beads abutting metal window and exterior door frames, to provide thermal break.
- .5 Install access doors to electrical and mechanical fixtures specified in respective sections.
  - .1 Rigidly secure frames to furring or framing systems.
- .6 Finish face panel joints and internal angles with joint system consisting of joint compound, joint tape and taping compound installed according to manufacturer's directions and feathered out onto panel faces.
- .7 Gypsum Board Finish: finish gypsum board walls and ceilings to following levels in accordance with AWCI Levels of Gypsum Board Finish as follows:
  - .1 Level 1: Above ceilings (non-fire rated partitions): Embed tape for

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- joints and interior angles in joint compound. Surfaces to be free of excess joint compound; tool marks and ridges are acceptable.
- .2 Level 2: Above ceilings (1 HR fire rated): Embed tape for joints and interior angles in joint compound and apply one separate coat of joint compound over joints, angles, fastener heads and accessories; surfaces free of excess joint compound; tool marks and ridges are acceptable.
- .3 Level 5: All finished areas below ceilings: All joints and interior angles shall have tape embedded in joint compound and shall be immediately wiped with a joint knife leaving a thin coating of joint compound over all joints and interior angles. Two separate coats of joint compound shall be applied over all flat joints and one separate coat of joint compound shall be applied over interior angles. Fastener heads and accessories shall be covered with three separate coats of joint compound. Where paperless board is used a thin skim coat of joint compound trowel applied, or a material manufactured especially for this purpose and applied in accordance with manufacturer's recommendations, applied to the entire surface. The surface shall be smooth and free of tool marks and ridges.
- .8 All joints and interior angles shall have tape embedded in joint compound and shall be immediately wiped with a joint knife leaving a thin coating of joint compound over all joints and interior angles. Two separate coats of joint compound shall be applied over all flat joints and one separate coat of joint compound shall be applied over interior angles. Fastener heads and accessories shall be covered with three separate coats of joint compound. A thin skim coat of joint compound trowel applied, or a material manufactured especially for this purpose and applied in accordance with manufacturer's recommendations, applied to the entire surface. The surface shall be smooth and free of tool marks and ridges.
- .9 Completed installation to be smooth, level or plumb, free from waves and other defects and ready for surface finish.



3.5 SCHEDULES

- .1 Construct fire rated and non-rated assemblies where indicated.
  - .1 Hours fire rated partition assembly, ULC Design No.
  - .2 See Reflected Ceiling Plan for gypsum board bulkheads and soffits.

END OF SECTION