

Part 1 General**1.1 RELATED REQUIREMENTS**

- .1 Section 07 26 00 - Vapour retarders and air barrier.
- .2 Section 07 92 00 - Joint Sealing
- .3 Section 09 22 16 – Non-structural Metal Framing.
- .4 Section 09 91 23.01- Painting

1.2 REFERENCES

- .1 ASTM International
 - .1 ASTM C475/C475M-15, Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.
 - .2 ASTM C514-04(2014), Standard Specification for Nails for the Application of Gypsum Board.
 - .3 ASTM C840-08, Standard Specification for Application and Finishing of Gypsum Board.
 - .4 ASTM C954-15, 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.
 - .5 ASTM C1002-16, Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.
 - .6 ASTM C1047-14a, Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base.
 - .7 ASTM C1396/C1396M-14a, Standard Specification for Gypsum Wallboard.
- .2 Association of the Wall and Ceilings Industries International (AWCI)
 - .1 AWCI Levels of Gypsum Board Finish-2010.
- .3 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-51.34-M86(R1988), Vapour Barrier, Polyethylene Sheet for Use in Building Construction.
- .4 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards
 - .1 SCAQMD Rule 1113-A2007, Architectural Coatings.
 - .2 SCAQMD Rule 1168-A2005, Adhesives and Sealants Applications.
- .5 Underwriters' Laboratories of Canada (ULC)
 - .1 CAN/ULC-S102-10, Standard Method of Test of Surface Burning Characteristics of Building Materials and Assemblies.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.

- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for gypsum board assemblies and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Samples:
 - .1 Submit for review and acceptance of each unit.
 - .2 Samples will be returned for inclusion into work.
 - .3 Submit one (1) 300 mm x 300 mm size sample of gypsum board, and 300 m long sample of corner and casing beads.

1.4 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store gypsum board assemblies materials level off ground indoors in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect gypsum board assemblies from nicks, scratches, and blemishes.
 - .3 Protect from weather, elements and damage from construction operations.
 - .4 Handle gypsum boards to prevent damage to edges, ends or surfaces.
 - .5 Protect prefinished aluminum surfaces with wrapping strippable coating. Do not use adhesive papers or sprayed coatings which bond when exposed to sunlight or weather.
 - .6 Replace defective or damaged materials with new.

1.5 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 MATERIALS

- .1 Standard gypsum board: to ASTM C1396/C1396M, standard and type X, of 16mm thick, 1200 mm wide x maximum practical length, ends square cut, edges bevelled.
- .2 Exterior gypsum board:
 - .1 Dimensions: 13 mm thick and 1200 mm wide x maximum practical length

- .2 Made of fibreglass integrated with polymer-modified waterproof gypsum core, paperless, covered with acrylic protective coat on outer side.
 - .3 To ASTM C1177, ASTM C1396, CAN/CSA-A82.27. Attestation: CCMC 13095-R.
 - .4 Moisture resistance: 0.4 mm deflection, to ASTM C 473.
 - .5 Non-combustible to CAN/ULC S-102. Flame spread and smoke development: 0/0, to CAN/ULC S-102.
 - .6 Dimensional stability: 16.7×10^{-6} , to ASTM E 228.
 - .7 Mould resistance: Index 10, to ASTM D 3273.
- .3 Lightweight concrete panels:
- .1 To ASTM D3273.
 - .2 Made of Portland cement reinforced with fibreglass and polymer adjuvants, 13 mm thick, 1200 mm wide and maximum effective length, with squared edges at ends and bevelled edges on sides.
 - .3 Smooth finish. 1500 kg/m^3 .

2.2

ACCESSORIES

- .1 Metal furring runners, hangers, tie wires, inserts, anchors: to CSA A82.30.
- .2 Drywall furring channels: 0.5 mm core thickness galvanized steel channels for screw attachment of gypsum board.
- .3 Resilient clips: 0.5 mm base steel thickness galvanized steel for resilient attachment of gypsum board.
- .4 Nails: to ASTM C514.
- .5 Steel drill screws: to ASTM C1002.
- .6 Casing beads, corner beads, control joints and edge trim: to ASTM C1047, zinc-coated by electrolytic process, 0.5 mm base thickness, perforated flanges one piece length per location.
- .7 Self-adhesive acoustic insulation gasket: rubber, mould-resistant, 3 mm thick, closed-cell EPDM/SBR, to ASTM D1056-97a, class SCE-41-2C1, 19 mm wide, self-adhesive on one face.
- .8 Sealants: in accordance with Section 07 92 00 - Joint Sealants.
- .9 Polyethylene: to CAN/CGSB-51.34, type 2.
- .10 Insulating strip: rubberized, moisture resistant, 3 mm thick closed cell neoprene, 12 mm wide, with self sticking permanent adhesive on one face, lengths as required.
- .11 Laminating compound: as recommended by manufacturer, asbestos-free.
- .12 Joint filler and priming coat: to ASTM C475, Smooth asbestos-free finish, standard white, in accordance with gypsum board manufacturer's recommendations.
- .13 Joint tape.

Part 3 Execution**3.1 EXAMINATION**

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for gypsum board assemblies installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of Departmental Representative.
 - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

3.2 ERECTION

- .1 Do application and finishing of gypsum board to ASTM C840 except where specified otherwise.
- .2 Do application of gypsum sheathing to ASTM C1280.
- .3 Place gypsum board on metal frame, as indicated, above suspended ceilings and up to real ceilings.
- .4 Erect hangers and runner channels for suspended gypsum board ceilings to ASTM C840 except where specified otherwise.
- .5 Support light fixtures by providing additional ceiling suspension hangers within 150 mm of each corner and at maximum 600 mm around perimeter of fixture.
- .6 Install work level to tolerance of 1:1200.
- .7 Frame with furring channels, perimeter of openings for access panels, light fixtures, diffusers, grilles.
- .8 Furr above suspended ceilings for gypsum board fire and sound stops and to form plenum areas as indicated.
- .9 Install wall furring for gypsum board wall finishes to ASTM C840, except where specified otherwise.
- .10 Furr openings and around built-in equipment, cabinets, access panels. Extend furring into reveals. Check clearances with equipment suppliers
- .11 Furr duct shafts, beams, columns, pipes and exposed services where indicated.

3.3 APPLICATION

- .1 Apply gypsum board after bucks, anchors, blocking, sound attenuation, electrical and mechanical work have been approved.
- .2 Apply single double layer gypsum board to wood metal furring or framing using screw fasteners stud adhesive for first layer, laminating adhesive screw fasteners for second layer. Maximum spacing of screws 300 mm on centre.
 - .1 Single-Layer Application:
 - .1 Apply gypsum board on ceilings prior to application of walls to ASTM C840.

- .2 Apply gypsum board vertically or horizontally, providing sheet lengths that will minimize end joints.
- .2 Double-Layer Application:
 - .1 Install gypsum board for base layer and exposed gypsum board for face layer.
 - .2 Apply base layer to ceilings prior to base layer application on walls; apply face layers in same sequence. Offset joints between layers at least 250 mm.
 - .3 Apply base layers at right angles to supports unless otherwise indicated.
 - .4 Apply base layer on walls and face layers vertically with joints of base layer over supports and face layer joints offset at least 250 mm with base layer joints.
- .3 Where indicated, place one (1) or two (2) thicknesses of gypsum board on concrete block surfaces and secure them with laminating adhesive.
 - .1 Shore up or secure gypsum board until adhesive is fully set.
 - .2 Secure top and bottom of each gypsum board mechanically.
 - .3 Lay sheets forming visible side of this covering with joints staggered at least 250 mm compared to those on underside.
 - .4 Mechanically attach top and bottom of each gypsum board.
- .4 Apply water-resistant gypsum board where wall tiles coating to be applied adjacent to slop sinks janitors closets. Apply water-resistant sealant to edges, ends, cut-outs which expose gypsum core and to fastener heads. Do not apply joint treatment on areas to receive tile finish.
- .5 Appliquer un cordon continu de 12 mm de diamètre d'un produit d'étanchéité acoustique sur le pourtour de chaque paroi de cloison, au point de rencontre des plaques de plâtre et de la charpente, là où les cloisons aboutent les éléments fixes du bâtiment. Sceller parfaitement toutes les découpes pratiquées autour des boîtes électriques, des conduits, dans les cloisons dont le pourtour est garni d'un produit d'étanchéité acoustique.
- .6 Install gypsum board on walls vertically to avoid end-butt joints. At stairwells and similar high walls, install boards horizontally with end joints staggered over studs, except where local codes or fire-rated assemblies require vertical application.
- .7 Install gypsum board with face side out.
- .8 Do not install damaged or damp boards.
- .9 Locate edge or end joints over supports. Stagger vertical joints over different studs on opposite sides of wall.

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 using contact adhesive for full length at 150 mm on centre.
- .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 Contraction joints:
 - .1 Prepare joints in places with change in nature of support, about every 10 m along long corridors, about every 15 m along ceilings.
 - .2 Prepare joints with two outcrop moulds placed back to back, inserted into coating formed by gypsum board and attached independently on each side of joint.
- .6 Provide continuous polyethylene dust barrier behind and across control joints.
- .7 Install control joints straight and true.
- .8 Construct expansion joints, at building expansion and construction joints. Provide continuous dust barrier.
- .9 Install expansion joint straight and true.
- .10 Install access doors to electrical and mechanical fixtures specified in respective sections.
 - .1 Rigidly secure frames to furring or framing systems.
- .11 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.
- .12 Gypsum Board Finish: finish gypsum board walls and ceilings to following levels in accordance with AWCI Levels of Gypsum Board Finish.
 - .1 Levels of finish:
 - .1 Level 0: no tapping, finishing or accessories required.
 - .2 Level 1: embed tape for joints and interior angles in joint compound. Surfaces to be free of excess joint compound; tool marks and ridges are acceptable.
 - .3 Level 2: 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.
 - .4 Level 3: embed tape for joints and interior angles in joint compound and apply two separate coats of joint compound over joints, angles, fastener heads and accessories; surfaces smooth and free of tool marks and ridges.
 - .5 Level 4: embed tape for joints and interior angles in joint compound and apply three separate coats of joint compound over joints, angles, fastener heads and accessories; surfaces smooth and free of tool marks and ridges.
 - .6 Level 5: embed tape for joints and interior angles in joint compound and apply three separate coats of joint compound over joints, angles, fastener heads and accessories; apply a thin skim coat of joint compound to entire surface; surfaces smooth and free of tool marks and ridges.
- .13 Finish corner beads, control joints and trim as required with two coats of joint compound and one coat of taping compound, feathered out onto panel faces.
- .14 Fill screw head depressions with joint and taping compounds to bring flush with adjacent surface of gypsum board so as to be invisible after surface finish is completed.

- .15 Sand lightly to remove burred edges and other imperfections. Avoid sanding adjacent surface of board.
- .16 Completed installation to be smooth, level or plumb, free from waves and other defects and ready for surface finish.

3.5 RESURFACING OF PLASTER

- .1 Following demolition work, in place indicated in drawings, resurface existing plasterwork.
- .2 Use products compatible with and that adhere to existing surfaces.
- .3 Match finished work seamlessly with adjacent surfaces.
- .4 Match existing textured surfaces juxtaposed with new work as indicated by Departmental Representative.

3.6 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.
 - .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

3.7 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by gypsum board assemblies installation.

END OF SECTION