

PART 1 - GENERAL

1.1 REFERENCE STANDARDS

- .1 ASTM International
 - .1 ASTM C473-19, Standard Test Methods for Physical Testing of Gypsum Panel Products.
 - .2 ASTM C475/C475M-17, Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.
 - .3 ASTM C840-20, Standard Specification for Application and Finishing of Gypsum Board.
 - .4 ASTM C1002-18, 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.
 - .5 ASTM C1047-14a(2019), Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base.
 - .6 ASTM C1280-18, Standard Specification for Application of Gypsum Sheathing.
 - .7 ASTM C1288-17, Standard Specification for Discrete Non-Asbestos Fiber-Cement Interior Substrate Sheets.
 - .8 ASTM C1325-19, Standard Specification for Non-Asbestos Fiber-Mat Reinforced Cementitious Backer Units.
 - .9 ASTM C1396/C1396M-17, Standard Specification for Gypsum Board.
 - .10 ASTM D2394-17, Standard Test Methods for Simulated Service Testing of Wood and Wood-Base Finish Flooring.
 - .11 ASTM E90-09(2016), Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
 - .12 ASTM E2638-10(2017), Standard Test Method for Objective Measurement of the Speech Privacy Provided by a Closed Room.
- .2 Association of the Wall and Ceilings Industries International (AWCI)
 - .1 AWCI Levels of Gypsum Board Finish GA-214-2015.
- .3 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-51.34-M86(R1988), Vapour Barrier, Polyethylene Sheet for Use in Building Construction.
- .4 American National Standards Institute (ANSI)
 - .1 ANSI A108/A118/A136.1:2020, Installation of Ceramic Tile.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00.
- .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 duplicate 300 mm long samples of corner and casing beads, **reveal trims**, and cornice cap.

1.3 DESIGN REQUIREMENTS

- .1 Partition assembly to be fire resistance rated.
- .2 Minimum sound transmission rating of installed panel partition to be STC 23, tested to ASTM E90.
- .3 Minimum speech privacy category SPC Enhanced Speech Privacy 65-70 tested to ASTM E2638.

1.4 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 and 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 indoors 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. 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 board: to ASTM C1396/C1396M, minimum 40% recycled content, regular, 12.7 mm thick fire-rated, 15.9 mm thick, 1200 mm wide x maximum practical length, ends square cut, edges squared.
- .2 Abuse resistant, fiber-reinforced gypsum panel: interior fiber-reinforced gypsum panel and water resistant exterior fiber-reinforced gypsum sheathing panels to ASTM C1629/C1629M Level III, 15.9 mm thick, 1200 mm wide x maximum practical length.
- .3 Gypsum sheathing board: to ASTM C1396/C1396M, regular, 15.9 mm thick and fire-rated, 15.9 mm thick, 1200 mm wide x maximum practical length.
- .4 Water-resistant board: to ASTM C1396/C1396M with silicone in core, regular, 15.9 mm thick and fire-rated, 15.9 mm thick, maximum practical length.
- .5 Cement board for shower walls: cementitious, water durable, board; surfaced with fiberglass reinforcing mesh on front and back; long edges wrapped; to ANSI A118.9, ASTM C1288 and ASTM C1325, 13 mm thick, edges tapered, 1200 mm wide x maximum practical length. Compressive strength: Not less than 15.51 MPa (2250 lbs. per sq. in.) when tested in accordance with ASTM D2394. Water absorption: Not greater than 8 percent when tested for 24 hours in accordance with ASTM C473.
- .6 Metal furring runners, hangers, tie wires, inserts, anchors: to ASTM C645.
- .7 Drywall furring channels: 0.5 mm core thickness galvanized steel channels for screw attachment of gypsum board.
- .8 Resilient drywall furring: 0.5 mm base steel thickness galvanized steel for resilient attachment of gypsum board.
- .9 Steel drill screws: to ASTM C1002.
- .10 Casing beads, corner beads, control joints and edge trim: to ASTM C1047, zinc-coated by hot-dip process, 0.6 mm base thickness, perforated flanges, one piece length per location.
- .11 Sealants: in accordance with Section 07 92 00.
 - .1 Acoustic sealant: in accordance with Section 07 92 00.
- .12 Polyethylene: to CAN/CGSB-51.34, Type 2.
- .13 Joint compound: to ASTM C475/C475M, asbestos-free.
- .14 Joint tape: to ASTM C475/C475M.
 - .1 Paper tape for standard gypsum board.
 - .2 Glass mesh tape for abuse and water resistant gypsum board, and cement board.

- .15 Z reveal trim: Stainless steel edge trim, 13 mm depth x 16 mm width profile forming recessed reveal as indicated on Drawings.**

2.2 FINISHES

- .1 Texture finish: asbestos-free standard white texture coating and primer-sealer, recommended by gypsum board manufacturer.

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 assembly 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 Erect hangers and runner channels for suspended gypsum board ceilings to ASTM C840 except where specified otherwise.
- .4 Support light fixtures by providing additional ceiling suspension hangers within 150 mm of each corner and at maximum 600 mm around perimeter of fixture.
- .5 Install work level to tolerance of 1:1200.
- .6 Frame with furring channels, perimeter of openings for access panels, light fixtures, diffusers, grilles.
- .7 Furr for gypsum board faced vertical bulkheads within and at termination of ceilings.
- .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, on four sides. Extend furring into reveals. Check clearances with equipment suppliers.
- .11 Furr duct shafts, beams, columns, pipes and exposed services where indicated.
- .12 Erect drywall resilient furring transversely across studs, spaced maximum 600 mm on centre and not more than 150 mm from ceiling/wall juncture. Secure to each support with 25 mm drywall screw.
- .13 Install 150 mm continuous strip of 12.7 mm gypsum board along base of partitions where resilient furring installed.

3.3 APPLICATION

- .1 Apply gypsum board after bucks, anchors, blocking, sound attenuation, electrical and mechanical work have been approved.
- .2 Apply single layer gypsum board to wood and metal furring or framing using screw fasteners. 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.
- .3 Apply water-resistant gypsum board where wall tiles to be applied and 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.
- .4 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.
- .5 Install ceiling boards in direction that will minimize number of end-butt joints. Stagger end joints at least 250 mm.
- .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 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.
- .4 ***Install Z reveal trims at junction between gypsum board and cast-in-place concrete foundation walls, and where otherwise indicated.***
- .5 Install insulating strips continuously at edges of gypsum board and casing beads abutting metal window and exterior door frames, to provide thermal break.
- .6 Construct control joints of preformed units set in gypsum board facing and supported independently on both sides of joint.
- .7 Provide continuous polyethylene dust barrier behind and across control joints.
- .8 Locate control joints where indicated at approximate 10 m spacing on long corridor runs and at approximate 15 m spacing on ceilings.
- .9 Install control joints straight and true.
- .10 Ensure that screws or nails are properly applied in process of attaching gypsum board to framing without damaging of gypsum board edges and ends.
- .11 Install cornice cap where gypsum board partitions do not extend to ceiling.
- .12 Fit cornice cap over partition, secure to partition track with two rows of sheet metal screws staggered at 300 mm on centre.
- .13 Splice corners and intersections together and secure to each member with 3 screws.
- .14 Install access doors to electrical and mechanical fixtures specified in respective sections.
 - .1 Rigidly secure frames to furring or framing systems.
- .15 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.
- .16 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 taping, 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.
- .17 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.
 - .18 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.
 - .19 Sand lightly to remove burred edges and other imperfections. Avoid sanding adjacent surface of board.
 - .20 Completed installation to be smooth, level or plumb, free from waves and other defects and ready for surface finish.
 - .21 Apply one coat of white primer sealer over surface to be textured. When dry apply textured finish in accordance with manufacturer's instructions.
 - .22 Mix joint compound slightly thinner than for joint taping.
 - .23 Apply thin coat to entire surface using trowel or drywall broad knife to fill surface texture differences, variations or tool marks.
 - .24 Allow skim coat to dry completely.
 - .25 Remove ridges by light sanding or wiping with damp cloth.

3.5 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 00.
 - .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 00.

3.6 PROTECTION

- .1 Protect installed products and components from damage during construction.

- .2 Repair damage to adjacent materials caused by gypsum board assemblies installation.