

Part 1 General

1.1 GENERAL INSTRUCTIONS

- .1 Read and be governed by Conditions of the Contract and Sections of Division 1.

1.2 RELATED SECTIONS

- .1 Section 01 00 10 - General Instructions.
- .2 Section 01 33 00 - Submittal Procedures.
- .3 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .4 Section 07 84 00 - Firestopping.
- .5 Section 07 92 10 - Joint Sealing.
- .6 Section 09 22 16 - Non-structural Metal Framing.

1.3 REFERENCES

- .1 American Society for Testing and Materials International, (ASTM)
 - .1 ASTM C36/C36M-01, Specification for Gypsum Wallboard.
 - .2 ASTM C442/C442M-04, Specification for Gypsum Backing Board, Gypsum Coreboard, and Gypsum Shaftliner Board.
 - .3 ASTM C475-02, Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.
 - .4 ASTM C514-04, Specification for Nails for the Application of Gypsum Board.
 - .5 ASTM C630/C630M-01, Specification for Water-Resistant Gypsum Backing Board.
 - .6 ASTM C840-04a, Specification for Application and Finishing of Gypsum Board.
 - .7 ASTM C954-04, 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.
 - .8 ASTM C1002-04, 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 C1047-05, Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base.
 - .10 ASTM C1177-01, Specification for Glass Mat Gypsum Substrate for Use as Sheathing.
 - .11 ASTM C1178/C1178M-04e1, Specification for Glass Mat Water-Resistant Gypsum Backing Board.
- .2 Association of the Wall and Ceilings Industries International (AWEI)
- .3 Canadian General Standards Board (CGSB)

- .1 CAN/CGSB-51.34-M86 (R1988), Vapour Barrier, Polyethylene Sheet for Use in Building Construction.
- .2 CAN/CGSB-71.25-M88, Adhesive, for Bonding Drywall to Wood Framing and Metal Studs.
- .4 South Coast Air Quality Management District (SCAQMD), California State (SCAQMD)
 - .1 SCAQMD Rule 1168-05, Adhesives and Sealants Applications.

1.4 DELIVERY, STORAGE AND HANDLING

- .1 Deliver materials in original packages, containers or bundles bearing manufacturers brand name and identification.
- .2 Store materials inside, level, under cover. Keep dry. Protect from weather, other elements and damage from construction operations and other causes.
- .3 Handle gypsum boards to prevent damage to edges, ends or surfaces. Protect metal accessories and trim from being bent or damaged.

1.5 SITE ENVIRONMENTAL REQUIREMENTS

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

1.6 SAMPLES

- .1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit duplicate 300 mm long samples of corner and casing beads, shadow mould and insulating strip.

1.7 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal paper, plastic, polystyrene and corrugated cardboard packaging material in appropriate on-site bins for recycling in accordance with site waste management program.
- .4 Divert unused gypsum from landfill to gypsum recycling facility for disposal approved by the Departmental Representative.
- .5 Divert unused metal materials from landfill to metal recycling facility approved by the Departmental Representative.

- .6 Divert unused wood materials from landfill to recycling or reuse facility approved by the Departmental Representative.
- .7 Divert unused paint and caulking material from landfill to official hazardous material collections site approved by Departmental Representative.
- .8 Do not dispose of unused paint and caulking materials into sewer systems, into lakes, streams, onto ground or in other locations where it will pose health or environmental hazard.

Part 2 Products

2.1 GENERAL

- .1 Products and manufacturers specified establish performance and quality required and are not intended to restrict submission by other manufacturers.
- .2 Acceptance of Products from other manufacturers will be subject to review by the Departmental Representative, for conformity with the specifications and meeting the physical characteristics of the specified Products. Include compliance with referenced standards. Submittals which do not include adequate data for the product evaluation will not be considered.
- .3 If unapproved substitute products are included in the bid, the specified Products shall be provided without additional compensation.

2.2 MATERIALS

- .1 Standard board: to ASTM C36/C36M regular, and Type X, thicknesses as indicated, 1220mm wide x maximum practical length, ends square cut, edges bevelled.
- .2 Backing board and coreboard: to ASTM C442/C442M, Type X, 25mm thick, squared edges.
- .3 Minimum recycled content:
 - .1 Gypsum board core: 98% recycled or synthetic gypsum, by weight.
 - .2 Gypsum board paper facing: 100% post consumer newsprint, by weight.
 - .3 Preference given to products that are manufactured and extracted from within 800 km of the building site.
- .4 Metal furring runners, hangers, tie wires, inserts, anchors: galvanized
- .5 Drywall furring channels: 0.5 mm core thickness galvanized steel channels for screw attachment of gypsum board.
- .6 Resilient drywall furring: 0.5 mm base steel thickness galvanized steel for resilient attachment of gypsum board.
- .7 Nails: to ASTM C514.
- .8 Steel drill screws: to ASTM C954 or ASTM C1002 as required.

- .9 Stud adhesive: to CAN/CGSB-71.25.
- .10 Laminating compound: as recommended by manufacturer, asbestos-free.
- .11 Casing beads, corner beads, control joints and edge trim: to ASTM C1047, metal, zinc-coated by electrolytic process, 0.5 mm base thickness, perforated flanges, one piece length per location.
 - .1 Casing beads and edge trim: U-shaped, to protect gypsum board edges, for use with 15.9mm boards.
 - .2 Corner beads: corner reinforcement for protecting external corners.
- .12 Purpose-made metal reveal trim where gypsum board meets concrete block: 13mm reveal trim fabricated of extruded aluminum, equal to 6063 T5, with tapered fin pre-punched to accept screw fasteners. Provide preformed extruded aluminum reveal profile in maximum lengths, with factory primed corrosion resistant finish; short pieces will not be accepted.
- .13 Vertical and horizontal purpose-made metal reveal trim in gypsum board partitions: 13mm reveal trim fabricated of extruded aluminum, equal to 6063 T5, with tapered fins pre-punched to accept screw fasteners. Provide preformed extruded aluminum reveal profile in maximum lengths, with factory primed corrosion resistant finish; short pieces will not be accepted.
- .14 Sealants: in accordance with Section 07 92 10 - Joint Sealing.
- .15 Acoustic sealant, concealed: Type 3 in accordance with Section 07 92 10 - Joint Sealing.
- .16 Acoustic sealant, exposed: Type 4 in accordance with Section 07 92 10 - Joint Sealing.
- .17 Polyethylene: to CAN/CGSB-51.34, Type 2.
- .18 Insulating strip: rubberized, moisture resistant, 3 mm thick closed cell neoprene strip, 13 mm wide, with self sticking permanent adhesive on one face, lengths as required.
- .19 Joint compound: ready-mixed, vinyl based, regular and machine grades, self drying type joint and topping compounds conforming to ASTM C475 and as recommended by the gypsum board manufacturer. asbestos-free.

Part 3 Execution

3.1 ERECTION

- .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 Install work level to tolerance of 1:1200.
- .4 Frame with furring channels, perimeter of openings for access panels, light fixtures, diffusers, grilles.

- .5 Furr for gypsum board faced vertical bulkheads within and at termination of ceilings.
- .6 Furr above suspended ceilings for gypsum board fire and sound stops and to form plenum areas as indicated.
- .7 Install wall furring for gypsum board wall finishes in accordance with ASTM C840, except where specified otherwise.
- .8 Furr duct shafts, beams, columns, pipes and exposed services where indicated.
- .9 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.

3.2 APPLICATION

- .1 Do not apply gypsum board until bucks, anchors, blocking, sound attenuation, electrical and mechanical work are approved.
- .2 Apply single and double layer gypsum board to 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 in accordance with 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 Apply 13 mm diameter bead of acoustic sealant (Type 3 where concealed, Type 4 where exposed) 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, etc., in partitions where perimeter sealed with acoustic sealant.
- .4 Install ceiling boards in direction that will minimize number of end-butt joints. Stagger end joints at least 250 mm.
- .5 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.
- .6 Install gypsum board with face side out.

- .7 Do not install damaged or damp boards.
- .8 Locate edge or end joints over supports. Stagger vertical joints over different studs on opposite sides of wall.

3.3 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. 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 Recessed purpose-made reveals:
 - .1 Install purpose-made reveals where indicated on Drawings.
 - .2 Install purpose-made reveals where indicated in strict accordance with manufacturer's installation instructions.
 - .3 Neatly mitre all intersections and corners. All joints shall be tight and neatly made. Debur all cut edges.
- .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 and at:
 - .1 At changes in substrate construction.
 - .2 Where furring or partition abuts a structural element or dissimilar wall or ceiling.
 - .3 Where ceiling abuts a structural element or dissimilar wall, partition or vertical penetration.
 - .4 At partition or furring runs exceeding 9 m.
 - .5 At partition or ceiling runs on column lines or at joints in ceiling runs.
- .9 Install control joints straight and true.
- .10 Splice corners and intersections together and secure to each member with 3 screws.
- .11 Install access doors to electrical and mechanical fixtures specified in respective sections.
 - .1 Rigidly secure frames to furring or framing systems.
- .12 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.

- .13 Gypsum Board Finish: finish gypsum board walls and ceilings to following levels in accordance with Association of the Wall and Ceiling Industries (AWCI) International Recommended Specification on Levels of Gypsum Board Finish:
- .1 Levels of finish:
- .1 Level 1 (in plenum areas above ceilings or in areas where the assembly would generally be concealed): Embed tape for joints and interior angles in joint compound. Surfaces to be free of excess joint compound; tool marks and ridges are acceptable.
 - .2 Level 2 (where water resistant gypsum backing board is used as a substrate for tile): 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 4 (where wall coverings or paint finishes are applied, except as indicated below): 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.
 - .4 Level 5 (where indicated on drawings): 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.
- .14 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.
- .15 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.
- .16 Sand lightly to remove burred edges and other imperfections. Avoid sanding adjacent surface of board.
- .17 Completed installation to be smooth, level or plumb, free from waves and other defects and ready for surface finish.
- .18 Remove ridges by light sanding or wiping with damp cloth.
- .19 Provide protection that ensures gypsum drywall work will remain without damage or deterioration at time of substantial completion.

END OF SECTION

Part 1 General

1.1 GENERAL INSTRUCTIONS

- .1 Read and be governed by Conditions of the Contract and Sections of Division 1.

1.2 RELATED SECTIONS

- .1 Section 01 00 10 - General Instructions.
- .2 Section 01 33 00 - Submittal Procedures
- .3 Section 01 61 00 - Common Product Requirements.
- .4 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .5 Section 07 21 16 - Blanket Insulation.
- .6 Section 07 92 10 - Joint Sealing.
- .7 Section 09 21 16 - Gypsum Board Assemblies.

1.3 REFERENCES

- .1 American Society for Testing and Materials International, (ASTM).
 - .1 ASTM C645-04a, Specification for Nonstructural Steel Framing Members.
 - .2 ASTM C754-04, Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products.

1.4 QUALITY ASSURANCE

- .1 Test Reports: certified test reports showing compliance with specified performance characteristics and physical properties.
- .2 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .3 Pre-Installation Meetings: conduct pre-installation meeting to verify project requirements, manufacturer's installation instructions and manufacturer's warranty requirements.

1.5 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.

- .3 Collect and separate for disposal paper, plastic, polystyrene and corrugated cardboard packaging material in appropriate on-site bins for recycling in accordance with site waste management program.
- .4 Divert unused metal materials from landfill to metal recycling facility approved by the Departmental Representative.
- .5 Divert unused gypsum materials from landfill to recycling facility approved by the Departmental Representative.

Part 2 Products

2.1 MATERIALS

- .1 Non-load bearing channel stud framing: to ASTM C645, stud sizes as indicated, roll formed from minimum 0.53mm thickness, unless indicated otherwise, hot dipped galvanized steel sheet, for screw attachment of gypsum board. Knock-out service holes at 460mm centres.
- .2 Floor and ceiling tracks: to ASTM C645, in widths to suit stud sizes, 32mm flange height.
- .3 Metal channel stiffener: sized to suit, 1.4mm thick cold rolled steel, coated with rust inhibitive coating.
- .4 Recycled content of studs, runners and channels: minimum 30% by weight.
- .5 Acoustic sealant: in accordance with Section 07 92 10 - Joint Sealing.
- .6 Insulating strip: rubberized, moisture resistant 3 mm thick foam strip, 13 mm wide, with self sticking adhesive on one face, lengths as required.
- .7 Insulation: to Section 07 21 16 - Blanket Insulation.

Part 3 Execution

3.1 ERECTION

- .1 Align partition tracks at floor and ceiling and secure at 600mm on centre maximum.
- .2 Install damp proof course under stud shoe tracks of partitions on slabs on grade.
- .3 Place studs vertically at 400 mm on centre maximum and not more than 50mm 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 Attach studs to bottom track using screws.

- .6 Co-ordinate simultaneous erection of studs with installation of service lines. When erecting studs ensure web openings are aligned.
- .7 Co-ordinate erection of studs with installation of door/window frames and special supports or anchorage for work specified in other Sections.
- .8 Provide two studs extending from floor to ceiling at each side of openings wider than stud centres specified. Secure studs together, 50mm apart using column clips or other approved means of fastening placed alongside frame anchor clips.
- .9 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.
- .10 Frame openings and around built-in equipment, cabinets, access panels, on four sides. Extend framing into reveals. Check clearances with equipment suppliers.
- .11 Provide 40mm 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.
- .12 Install steel studs or furring channel between studs for attaching electrical and other boxes.
- .13 Extend partitions to ceiling height except where noted otherwise on drawings.
- .14 Maintain clearance under beams and structural slabs to avoid transmission of structural loads to studs. Use double track slip joint as indicated.
- .15 Install continuous insulating strips to isolate studs from uninsulated surfaces.
- .16 Install two continuous beads of acoustical sealant under studs and tracks around perimeter of sound control partitions.

3.2 CLEANING

- .1 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

END OF SECTION