

Part 1 GENERAL

1.1 RELATED REQUIREMENTS

- .1 Section 04 22 00 - Concrete Unit Masonry.
- .2 Section 05 50 00 - Metal Fabrications.
- .3 Section 06 10 00 - Rough Carpentry.
- .4 Section 06 40 00 - Architectural Woodwork.
- .5 Section 07 21 16 - Blanket Insulation.
- .6 Section 07 84 00 - Fire stopping.
- .7 Section 07 92 00 - Joint Sealants.
- .8 Section 08 11 00 - Metal Doors and Frames.
- .9 Section 09 22 16 - Non-structural Metal Framing.
- .10 Section 09 58 00 - Integrated Ceiling Assemblies.

1.2 REFERENCES

- .1 American Society for Testing and Materials International, (ASTM)
 - .1 ASTM C11, Committee C11 on Gypsum and Related Building Materials and Systems.
 - .2 ASTM C473-15, Standard Test Methods for Physical Testing of Gypsum Panel Products.
 - .3 ASTM C475/475M-15, Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.
 - .4 ASTM C514-04 (2014), Specification for Nails for the Application of Gypsum Board.
 - .5 ASTM C840-13, Specification for Application and Finishing of Gypsum Board.
 - .6 ASTM C1002-14, Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.
 - .7 ASTM C1047-14a, Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base.
 - .8 ASTM C1280-13a, Specification for Application of Gypsum Sheathing Board.
 - .9 ASTM C1396/1396M-14a, Standard Specification for Gypsum Board.
 - .10 ASTM C1629/1629M-15, Standard Classification for Abuse-Resistant Nondecorated Interior Gypsum Panel Products and Fiber-Reinforced Cement Panels.
 - .11 ASTM D1056-14, Standard Specification for Flexible Cellular Materials—Sponge or Expanded Rubber.
 - .12 ASTM D3273-12e1, Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
- .2 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 DELIVERY, STORAGE AND HANDLING

- .1 Ensure that packaging, container, original batch and manufacturer's labels and seals are kept intact.
- .2 Protect from weather, elements and damage from construction operations.
- .3 Protect from damage to surfaces and ends. Protect metal trim from damaged or warping.

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.

1.5 PRODUCT DATA

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

1.6 WASTE MANAGEMENT AND DISPOSAL

- .1 Sort and recycle waste in accordance with Section 01 74 21 – Construction/Demolition Management and Disposal.
- .2 Remove packaging waste from work site and ship to appropriate recycling centres.

Part 2 PRODUCTS

2.1 MATERIALS

- .1 Standard board and fire retardant boards:
 - .1 To ASTM C1396, CAN/ULC S102 and ASTM C11, standard and Type X, 13 and 16 mm thick, 1,200 mm wide and maximum practical length, squared ends and tapered edges.
 - .2 Recycled content post-consumer : 3,9 %
 - .3 Recycled content pre-consumer : 93,5 %
- .2 Water-resistant board:
 - .1 To ASTM C1396, standard and Type X, 13 and 16 mm thick, 1,200 mm wide and maximum practical length.
 - .2 Water absorption maximum 5% to ASTM C473 after 2 hour immersion. Tested to ASTM D3273, Rated 8.
- .3 Ultra-resistant board:
 - .1 Resistant to humidity and impacts, 16 mm thick, 1,200 mm wide and maximum practical length, 14.9 kg/m², squared ends and edges tapered.
 - .2 To ASTM C1396, C473, C1629 and CAN/ULC S102 for fire rating.
 - .3 Surface abrasion: to ASTM C1629, Class 3.
 - .4 Surface indentation: to ASTM C1629, Class 1.
 - .5 Impact resistance: to ASTM C1629, Class 1.
- .4 Metallic flattened mesh for mesh partitions: steel, 1,8mm thickness, longest practical length, 1.4 lbs/sq.ft., opening percentage: 52%, maximum opening size 8mm x 25.4mm.
- .5 Drywall furring channels: 0.5 mm mm core thickness galvanized steel channels for screw attachment of gypsum board.
- .6 Metal U channels, suspension rods, gypsum suspended ceiling tie wire and anchors: to CSA A82.30, galvanized.
- .7 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.
- .8 Shadow mould for control joints over large surfaces.

- .9 Self-adhesive acoustic insulation gasket: rubber, mould-resistant, 3 mm thick, closed-cell neoprene / EPDM/SBR, to ASTM D1056, Class SCE-41-2C1, 19 mm wide, self-adhesive on one face, width equal to 1" , length as required.
- .10 Nails: to ASTM C514.
- .11 Steel drill screws: to ASTM C1002.
- .12 Steel drill screws with washers for mesh partitions: depending on the size of the openings in the metal mesh.
- .13 Sealants: in accordance with Section 07 92 00 - Joint Sealants.
- .14 Acoustic sealant: in accordance with Section 07 92 00 - Joint Sealants.
- .15 Joint compound: to ASTM C475, asbestos-free.
- .16 Access hatches provided by electromechanical subcontractors.

2.2 FINISHES

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

2.3 INSULATED FIRE RATED DOORS

- .1 Insulated cold-formed access door – **TA**.
 - .1 Two-hour fire rating.
 - .2 Piano hinge, opening 165°.
 - .3 Rock wool insulation.
 - .4 Automatic engaging lock with key cylinder.
 - .5 Ferme-porte automatique.
 - .6 Interior door opener.
 - .7 Primer paint coating (commercial grey).

Part 3 EXECUTION

3.1 PREPARATION

- .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 and other elements.
- .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, and other elements. 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 between the layers of gypsum board, 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 Apply gypsum board after bucks, anchors, blocking, sound attenuation, electrical and mechanical work have been approved.
- .2 Apply gypsum board to 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.
 - .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 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, and in partitions where perimeter sealed with acoustic sealant.
- .4 Apply water-resistant gypsum board in identified areas. Apply sealer to edges and ends, and cuts exposing core and fastener heads. Do not apply jointing products to surfaces to be tiled.
- .5 Install fire-rated gypsum board in identified areas. Apply fireproofing product around openings in gypsum board to maintain fire resistance, as required.
- .6 Install ceiling boards in direction that will minimize number of end-butt joints. Stagger end joints at least 250 mm.
- .7 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.
- .8 Install gypsum board with face side out.
- .9 Do not install damaged or damp boards.
- .10 Locate edge or end joints over supports. Stagger vertical joints over different studs on opposite sides of wall.
- .11 Attach the metallic mesh to the intermediate and end posts at least 300mm and at the top and at the bottom at least 300mm.

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 using contact adhesive 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 Construct control joints of preformed units set in gypsum board facing and supported independently on both sides of joint.
- .6 Install continuous polyethylene strip (forming anti-dust screen) behind contraction joints and lapped.
- .7 Locate control joints where indicated, at changes in substrate construction, at approximate 10 m spacing on long corridor runs, at approximate 15 m spacing on ceilings.
- .8 Install control joints straight and true.
- .9 Construct expansion joints as detailed, at building expansion and construction joints. Provide continuous dust barrier.
- .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 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.
- .13 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.
- .14 Sand lightly to remove burred edges and other imperfections. Avoid sanding adjacent surface of board.
- .15 Apply two coats of joint compound prior to applying finish coat.
- .16 Completed installation to be smooth, level or plumb, free from waves and other defects and ready for surface finish.
- .17 Mix joint compound slightly thinner than for joint taping.
- .18 Apply thin coat to entire surface using trowel or drywall broad knife to fill surface texture differences, variations or tool marks.
- .19 Allow skim coat to dry completely.
- .20 Remove ridges by light sanding or wiping with damp cloth.

3.4 SCRATCH COAT

- .1 Apply scratch coat to existing board in indicated areas after demolition works.
- .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.

END OF SECTION

Part 1 GENERAL

1.1 RELATED REQUIREMENTS

- .1 Section 04 22 00 – Concrete Unit Masonry.
- .2 Section 05 50 00 – Metal Fabrications.
- .3 Section 06 10 00 – Rough Carpentry.
- .4 Section 07 21 16 – Blanket Insulation.
- .5 Section 07 92 00 – Joint Sealants.
- .6 Section 08 11 00 – Metal Doors and Frames.
- .7 Section 09 21 16 – Gypsum Board Assemblies.
- .8 Section 09 58 00 – Integrated Ceiling Assemblies.

1.2 REFERENCES

- .1 American Society for Testing and Materials International, (ASTM)
 - .1 ASTM C645-14 e1, Specification for Nonstructural Steel Framing Members.
 - .2 ASTM D1056-14, Standard Specification for Flexible Cellular Materials—Sponge or Expanded Rubber.
- .2 Underwriters' Laboratory of Canada (ULC)
 - .1 CAN/ULC-S102-10, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

1.3 QUALITY ASSURANCE

- .1 Test Reports: submit certified test reports showing compliance with specified performance characteristics and physical properties.

1.4 PRODUCT DATA SHEETS

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

1.5 WASTE MANAGEMENT AND DISPOSAL

- .1 Sort and recycle waste in accordance with Section 01 74 21 – Construction/Demolition Management and Disposal.
- .2 Remove packaging waste from work site and ship to appropriate recycling centres.

Part 2 PRODUCTS

2.1 MATERIALS

- .1 Non-load bearing channel stud framing: 41, 64, 92 and 152 mm stud size to ASTM C 645 and CAN/ULC-S102, roll formed from 0.53, 0.91 and 1.20 mm thickness hot dipped galvanized steel sheet, for screw attachment of gypsum, designed for knock-out service holes at 460 mm centres.
 - .1 Interior metal framing:

Partitions up to 3,600 mm:	0.53mm
Partitions up to 4,800 mm:	0.91mm
Partitions up to 6,000 mm:	1.20mm
 - .2 Meshed partitions: 0.91mm
 - .3 Framing of interior openings: 0.91mm minimum.
 - .4 Exterior metal framing: 1.2 mm.
- .2 Floor and ceiling tracks: to ASTM C645, in widths to suit stud sizes, 50 mm and 75 mm flange height.
- .3 Metal channel stiffener: width of studs x 50 mm, cold formed steel, 1.4 mm thick, anti-rust paint.
- .4 Laminated and hot-dipped galvanized steel sheet, 1.5 mm as backing for accessories and integrated furnishings.
- .5 Acoustical sealant: to Section 07 92 10 – Joint Sealant.

2.2 ACOUSTICAL SEALANT

- .1 Acoustical sealant: in accordance with Section 07 21 16 – Blanket Insulation.

2.3 ACCESSORIES

- .1 Insulating strip: rubberized, moisture resistant 3 mm thick, closed cell neoprene/ EPDM /SBR, to ASTM D1056, Class SCE-41-2C1, 19 mm wide, one face self-adhering, length as required.
- .2 Compressible polystyrene foam, 6 mm thick, in rolls, width to suit metal framing.

Part 3 EXECUTION

3.1 ERECTION

- .1 Align partition tracks at floor and ceiling and secure at 600 mm on centre maximum.
- .2 Install damp proof course around exterior metal framing walls.
- .3 Place studs vertically as indicated and not more than 50 mm from abutting walls, and at each side of openings and corners.
- .4 Erect metal studding to tolerance of 1:1000.
- .5 Attach studs to 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 Secure studs together, 50 mm apart using column clips or other approved means of fastening placed alongside frame anchor clips.
- .9 Install heavy gauge single jamb studs at openings.

- .10 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.
- .11 Frame openings and around built-in equipment, cabinets, access panels, on four sides. Extend framing into reveals. Check clearances with equipment suppliers.
- .12 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.
- .13 Install steel studs or furring channel between studs for attaching electrical and other boxes.
- .14 Extend partitions to ceiling height except where noted otherwise on drawings.
- .15 Maintain clearance under beams and structural slabs to avoid transmission of structural loads to studs. Use double track slip joint as indicated.
- .16 Install continuous insulating strips to isolate studs from uninsulated surfaces.
- .17 Install two continuous beads of acoustical sealant under studs and tracks around perimeter of sound control partitions.

3.2 INSULATION INSTALLATION

- .1 Install insulation to ensure continuous acoustic protection in indicated areas.
- .2 Carefully apply insulation over elements to be covered and around electrical boxes, pipes, air vents and framing.
- .3 Do not compress insulation to adjust to space.
- .4 Do not cover insulation before installation work has been inspected and approved by Departmental Representative.

3.3 CLEANING

- .1 Upon completion remove surplus materials, rubbish, tools and barriers to protect equipment.

END OF SECTION

Part 1 GENERAL

1.1 RELATED REQUIREMENTS

- .1 Section 06 10 00 - Rough Carpentry.
- .2 Section 09 21 16 - Gypsum Board Assemblies.

1.2 REFERENCES

- .1 American Society for Testing and Materials (ASTM International)
 - .1 ASTM C635/635M-13a, Specifications for the Manufacture, Performance and Testing of Metal Suspension Systems for Acoustical Tile and Lay-In Panel Ceilings.
 - .2 ASTM C636/636M-13, Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels.
 - .3 ASTM E580/E580M-14, Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions.
 - .4 ASTM E1264-14, Standard Classification for Acoustical Ceiling Products.
- .2 CSA Group
 - .1 CSA B111-74 (R2003), Wire Nails, Spikes and Staples.
- .3 CISCA Ceilings & Interior Systems Construction Association:
 - .1 Ceiling systems handbook
 - .2 Guidelines for seismic restraint for direct-hung suspended ceiling assemblies
 - .3 Recommendations for direct-hung acoustical tile and lay-in panel ceilings
 - .4 Acoustical ceiling use and practices.

1.3 CALCULATION CRITERIA

- .1 Maximum deflection: 1/360 span deflection, determined by deflection tests under ASTM C635 and ASTM E580.
- .2 Erect ceilings in accordance with seismic requirements of National Building Code (current edition) and ASTM E580, designed under supervision of an engineer who is a member of the Ordre des ingénieurs du Québec.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures, product data and mock-ups.
- .2 Submit one representative model of each type of component of suspended ceiling system.
- .3 One sample indicating assembly details, attachment to walls, recessed appliances, brackets, le mode connections, finish and installation of acoustical components.
- .4 Layout:
 - .1 Submit plan, as indicated.
 - .2 Indicate layout of ceiling, layout, spacing details, anchor and suspension details, jointing of primary and secondary sections, location of removable sections, changes in height, dimensions and location of hatches and suspension of acoustic components near lighting fixtures, wall brackets and accessories.

1.5 REQUIREMENTS OF REGULATORY AGENCIES

- .1 All fire-rated floor/ceiling and roof/ceiling assemblies: certified by Canadian certification agency certified by the CSA.

1.6 AMBIENT CONDITIONS

- .1 Allow work releasing moisture to dry prior to commencing work.
- .2 Maintain temperatures in installation area prior to and during installation at minimum 15° C and humidity levels between 20 and 40%.
- .3 Prior to using materials, store 48 hours in installatin area.

1.7 ADDITIONAL MATERIALS

- .1 Provide additional acoustical components in accordance with Section 01 78 00 – Closeout Submittals.
- .2 Provide additional acoustical and suspending ceiling components equal to 3% to gross ceiling surface, for each type and model of acoustical component.
- .3 Provide additional material from same manufacturing batches.
- .4 Clearly identify each type of acoustical element, including colour and texture.
- .5 Return additional material to Departmental Representative upon completion of work under this section.
- .6 Store additional material in area indicated by Departmental Representative.

1.8 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for reuse and recycling 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.

Part 2 PRODUCTS

2.1 SUSPENSION SYSTEM

- .1 Metal suspension: intermediate duty system to ASTM C635.
- .2 Metal suspension fabrication materials: cold laminated commercial grade.
- .3 Tiles and suspension components from same manufacturer.
- .4 Acoustic units suspension:
T-bar suspension system, 24 mm, medium strength, to ASTM C 635:
 - .1 Height: 38mm.
 - .2 Materials: hot dipped galvanized steel, commercial grade.
 - .3 Finish: polyester paint, baked, white.
 - .4 Principal T-bar: medium load double core to ASTM C635.
 - .5 Secondary T-bar: double core, minimum 1,71 kg/m capacity.
 - .6 Perimeter moulding minimum 24 mm x 24 mm at ceiling/wall junctions.
 - .7 Colours: white.
- .5 Transition trim between suspended gypsum ceiling and acoustic tile of same height.
 - .1 Hot dipped galvanized steel, commercial grade, white baked polyester paint.
 - .2 Exposed 23 mm length, matched to suspension mesh.

2.2 Acoustic units

- .1 Hydroform mineral fibre panel, with factory applied latex acrylic paint finish, 610 x 1220 x 16mm, square tile, white, to ASTM E1264.
 - .1 Type: III.
 - .2 Shape: 2.
 - .3 Texture: intermediate.
 - .4 Pattern: C D.
 - .5 Noise reduction coefficient (NRC) designation: 0.55
 - .6 CAP: 33
 - .7 Light reflectance range : 0.82
 - .8 Sag resistant.
 - .9 Treated for mould and bacteria.
 - .10 Impact and scratch resistant.

2.3 ACCESSORIES

- .1 Clips, nails and screws: to CSA B111, anti-corrosion finish, as recommended by manufacturer of acoustic components.
- .2 Assembly clips: designed specifically for attaching suspension ceiling tiles, and appropriate for use in fire-rated installation.

Part 3 EXECUTION

3.1 INSPECTION

- .1 Do not install acoustic panels and tiles before Departmental Representative has inspected installations to be concealed in ceiling.

3.2 ASSEMBLY

- .1 Install integrated ceiling suspension system to ASTM C636 and E580.
- .2 Install suspension assembly in accordance with manufacturer's instructions and calculation criteria approved by certification agencies.
- .3 Do not erect ceiling suspension system until anchors, blocking, sound or fire barriers, electrical and mechanical work above ceiling are inspected and approved by Departmental Representative.
- .4 Secure hangers to upper structure using indicated fasteners.
- .5 Place hangers maximum 1,200 centre and minimum 150 mm from ends of principal T-bars.
- .6 Layout centre line of ceiling both ways, to provide balanced borders at room perimeter no less than 1/2 tile system according to reflected ceiling plan.
- .7 Ensure suspended system is co-ordinated with location of related components.
- .8 Install wall mould to provide correct ceiling height.
- .9 Ensure once completed suspension system can support additional loads such as lighting, diffusers, grilles and speakers.
- .10 Provide additional hangers for lighting and diffusers installed 150 mm maximum from each corner and every 600 mm around appliances.
- .11 Install suspension assembly crosspieces to hangers as per manufacturer's instructions.
- .12 Install trim around openings for lighting, diffusers and speakers, and changes in ceiling height.
- .13 Install removable sections to allow access to crawlspace over half of suspended ceiling surface.
- .14 Ensure ceiling edges are level along walls, maximum 1:1000.

- .15 Install expansion joints as indicated.
- .16 Install as recommended by CISCA and NBC for regions where there is light to moderate seismic activity (zones 0-2).
 - .1 Do not attach mesh to wall trim.
 - .2 Allow 10 mm on all sides.
 - .3 Mesh to overlap 10 mm over wall trim.
 - .4 Tie main beams to cross tees to prevent their spreading.
 - .5 Do not attach suspension wire around perimeter.
 - .6 Twist suspension wire three times at extremities.

3.3 INSTALLATION

- .1 Install acoustic panels and tiles on suspension system.
- .2 Install absorbing fibre material on inside of suspension system.
- .3 Use clips on fire rate ceilings, including lighting fixtures, diffusers, air intakes and other appliances, and protect in accordance with certifying agencies.

3.4 COORDINATION

- .1 Coordinate assembly with sections covering lighting, diffusers, speakers, sprinklers in acoustic ceiling.

3.5 CLEANING

- .1 Touch up defects on painted surfaces.
- .2 Clean all exposed surfaces with commercial cleaner, non-abrasive and solvent free, following manufacturer's recommendations.

END OF SECTION

Part 1 GENERAL

1.1 RELATED REQUIREMENTS

- .1 Section 06 10 00 - Rough Carpentry.
- .2 Section 09 21 16 - Gypsum Board Assemblies.

1.2 REFERENCES

- .1 American Society for Testing and Materials (ASTM International)
 - .1 ASTM F1066-04 (2014)e1, Specification for Vinyl Composition Floor Tile.
 - .2 ASTM F710-11, Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.
 - .3 ASTM F1869-11, Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
 - .4 ASTM F2170-11, Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.

1.3 SAMPLES

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Provide two (2) samples of floor covering in 300 mm x 300 mm sheets, two (2) samples of base and treads.

1.4 CLOSEOUT SUBMITTALS

- .1 Provide necessary instructions for maintenance of resilient sheet flooring and include with manual indicated in Section 01 78 00 – Closeout Submittals.

1.5 WASTE MANAGEMENT AND DISPOSAL

- .1 Sort and recycle waste in accordance with Section 01 74 21 – Construction/Demolition 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, corrugated cardboard, and packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan.
- .4 Divert unused adhesive and finish materials from landfill to official hazardous material collections site.
- .5 Do not dispose of unused caulking, sealants, and adhesive materials into sewer systems, into lakes, streams, onto ground or in locations where it will pose health or environmental hazard.

1.6 AMBIENT CONDITIONS

- .1 Maintain air temperature and structural base temperature at flooring installation area above 20 degrees for 48 hours before, during and 48 hours after installation.

1.7 EXTRA MATERIALS

- .1 Provide extra materials of tiles, bases and adhesives in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Provide equivalent of 5% of total tile surface of each colour, pattern and type necessary to maintain work in good condition.
- .3 Extra materials one piece and from same production run as installed materials.
- .4 Identify each box of tile and each container of adhesive.
- .5 Return to Departmental Representative on completion of this section.

- .6 Store where directed by Departmental Representative.

Part 2 PRODUCTS

2.1 MATERIALS

- .1 Composite vinyl tile, complying with ASTM F1066, class 2 (through pattern):
 - .1 Nominal thickness: 3,2 mm.
 - .2 Dimensions: 305 mm x 305 mm.
 - .3 Colour: selected by Departmental Representative from complete range available from manufacturer, two different colours.
- .2 Bases: roll vinyl.
 - .1 Continuouse, on floor covering.
 - .2 Height: 100 mm.
 - .3 Length: roll, minimum length 2400mm.
 - .4 Colour: Choice of two (2) colours.
- .3 Primers and adhesive: as recommended by flooring manufacturer.
- .4 Sub-floor filler and leveller: as recommended by flooring manufacturer for use with their product.
- .5 Transition mouldings:
 - .1 Joints between vinyl tiles and other floor coverings, provide and install extruded aluminium extensions, appropriate dimensions for flooring thickness.
 - .2 Profiles to make shoulder flush with top of adjacent floor finish and protect tile edges. Secure with adhesive.
 - .3 Joints must meet at door median.
- .6 Sealer and wax: type recommended by resilient flooring material manufacturer for material type and location.

Part 3 EXECUTION

3.1 SITE VERIFICATION OF CONDITIONS

- .1 Ensure concrete floors are clean, free of traces of alkalinity, carbonization, dust, and adhering to support, by using test methods recommended by flooring manufacturer.
- .2 Prepare surface according to manufacturer's instructions. Inspect condition of floor, slopes to drains, traps and other floor equipment.
- .3 Make required corrections prior to beginning installation of floor covering.

3.2 PREPARATION

- .1 Remove uneven areas. Fill in holes and fill cracks, joints and other defects using substrate filler product.
- .2 Work to existing surfaces:
 - .1 Clean floor and apply filler; trowel and float to leave smooth, flat hard surface. Prohibit traffic until filler cured and dry.
 - .2 Remove or treat old adhesives to prevent residual, old flooring adhesives from bleeding through to new flooring and/or interfering with the bonding of new adhesives.
- .3 Prime surfaces according to manufacturer's written instructions.
- .4 Provide at least two preparation layers.

3.3 APPLICATION – GENERAL

- .1 Maintain temperature of substrate surface at 20° C for 48 hours prior to installation, during installation and for 48 hours after completion of work.
- .2 Provide letter indicating humidity levels and pH in concrete and demonstrating measurements are within parameters required by ASTM F1869 and ASTM F2170. Provide concrete slab to ASTM F710 and provide alternatives such as epoxy sealants if slab moisture levels exceed adhesive manufacturer's limit. Conduct and pay for tests by specialized, independent company.
- .3 Do not install flooring if humidity levels detected in the concrete slab are above 5lbs/1000 sq.ft. for 24 hours using a calcium chloride test ASTM F1869 or 80% relative humidity using the hygrometric detector ASTM F2170.
- .4 Use epoxy sealant recommended and approved by adhesive manufacturer if evaporation level is above 5 lbs 5lbs /1000 sq.ft. for 24 hours using a calcium chloride test ASTM F 1869 or 80% relative humidity using the hygrometric detector ASTM F2170.
- .5 Install floor covering only after other trades to avoid overlap and contamination by third parties.

3.4 APPLICATION: FLOORING

- .1 Provide high ventilation rate, with maximum outside air, during installation, and for 48 to 72 hours after installation. If possible, vent directly to outside. Do not let contaminated air recirculate through district or whole building air distribution system.
- .2 Apply adhesive uniformly using recommended trowel. Do not spread more adhesive than can be covered by flooring before initial set takes place.
- .3 Lay flooring with joints parallel to building lines to produce symmetrical tile pattern. Border tiles minimum half tile width.
- .4 Install flooring to square grid pattern with joints aligned to walls of the room.
- .5 As installation progresses, and after installation roll flooring with 45 kg minimum roller to ensure full adhesion.
- .6 Cut flooring around fixed or heavy objects. Seal unwelded edges with appropriate sealant.
- .7 Install feature strips and floor markings where indicated. Fit joints tightly.
- .8 Install flooring in pan type floor access covers. Maintain floor pattern.
- .9 Continue flooring through areas to receive movable type partitions without interrupting floor pattern.
- .10 Terminate flooring at centerline of door in openings where adjacent floor finish or colour is dissimilar.
- .11 Install metal edge strips at unprotected or exposed edges where flooring terminates.

3.5 BASE APPLICATION

- .1 Lay out base to keep number of joints at minimum. Base joints at maximum length available or at internal or premoulded corners.
- .2 Clean substrate and prime with one coat of adhesive.
- .3 Apply adhesive to back of base.
- .4 Set base against wall and floor surfaces tightly by using 3 kg hand roller.
- .5 Install straight and level to variation of 1:1000.
- .6 Scribe and fit to door frames and other obstructions. Use premoulded end pieces at flush door frames.
- .7 Cope internal corners. Use premoulded corner units for right angle external corners. Use formed straight base material for external corners of other angles, minimum 300 mm each leg. Wrap around toeless base at external corners.

3.6 CLEANING AND INITIAL WAXING

- .1 Remove excess adhesive from floor, base and wall surfaces without damage.
- .2 Clean, seal and wax floor and base surface to flooring manufacturer's instructions.

3.7 PROTECTION

- .1 Protect new floors from [time of final set of adhesive until final waxing.
- .2 Prohibit traffic on floor for 48 hours after installation.

END OF SECTION

Part 1 GENERAL

1.1 RELATED REQUIREMENTS

- .1 Section 05 50 00 - Metal Fabrications.
- .2 Section 06 40 00 - Architectural Woodwork.
- .3 Section 08 11 00 - Metal Doors and Frames.
- .4 Section 09 21 16 - Gypsum Board Assemblies.

1.2 REFERENCES

- .1 Architectural Painting Specifications Manual, Master Painters Institute-2014.
- .2 Systems and Specifications Manual, SSPC Painting Manual, Volume Two, Society for Protective Coatings (SSPC).
- .3 Test Method for Measuring Total Volatile Organic Compound Content of Consumer Products, Method 24 (for Surface Coatings) of the Environmental Protection Agency (EPA).
- .4 Green Seal Environmental standards
 - .1 Standard GS-11-1993, Paints.
 - .2 Standard GC-03-1997, Anti-Corrosive Paints
- .5 National Fire Code of Canada.
- .6 Environment and climate change Canada
 - .1 Canadian Environmental Protection Act (CEPA), 1999, c. 33.
- .7 Health Canada / Workplace Hazardous Materials Information System (WHMIS).
 - .1 Material Safety Data Sheets (MSDS).
- .8 Transport Canada (TC)
 - .1 Transportation of Dangerous Goods Act (TDGA), 1992, c. 34.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit product data for the use and application of paint and products used in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit required Workplace Hazardous Materials Information System (WHMIS) Material Safety Data Sheets (MSDS).
- .3 Submit complete list of all products. Indicate products used in each system, specifying the following details:
 - .1 Product name, type and use.
 - .2 Manufacturer's product number.
 - .3 Colour numbers.
 - .4 MPI Environmentally Friendly classification system rating.
 - .5 Manufacturer's Material Safety Data Sheets (MSDS) for each product.

1.4 SAMPLES

- .1 Submit full range colour sample chips based on Section 01 33 00 - Submittal Procedures, to indicate where colour availability is restricted.
- .2 Submit duplicate 200 x 300 mm sample panels of each paint, stain, clear coating and special finish with specified paint or coating in colours, gloss/sheen and textures required.
- .3 Retain reviewed samples on-site to demonstrate acceptable standard of quality for appropriate on-site surface. Keep one of the two samples on site.

1.5 QUALITY ASSURANCE

- .1 Contractor: minimum of five years proven satisfactory experience. Provide list of last three comparable jobs including, job name and location, specifying authority, and project manager.
- .2 Journeymen: qualified journeymen who have "Tradesman Qualification Certificate of Proficiency" engaged in painting work. Apprentices: working under direct supervision of qualified trades person in accordance with trade regulations.
- .3 Conform to latest MPI requirements for interior painting work including preparation and priming.
- .4 Materials (primers, paints, coatings, varnishes, stains, lacquers, fillers, thinners, solvents, etc.) must appear of the list of approved products of the MPI Architectural Painting Specification Manual. Provide paint materials for paint systems from single manufacturer.
- .5 Linseed oil, shellac, and turpentine: highest quality product from approved manufacturer listed in MPI Architectural Painting Specification Manual, compatible with other coating materials as required.
- .6 Retain purchase orders, invoices and other documents to prove conformance with noted MPI requirements when requested by Departmental Representative.
- .7 Standard of Acceptance
 - .1 Walls: no defects visible from a distance of 1000 mm at 90 degrees to surface.
 - .2 Ceilings: no defects visible from floor]at [5 degrees degrees to surface when viewed using final lighting source.
 - .3 Final coat to exhibit uniformity of colour and uniformity of sheen across full surface area.

1.6 EXTRA MATERIALS

- .1 Comply with Section 01 78 00 - Closeout Submittals.
- .2 Provide to the Departmental Representative, one four-litre can of each type of primer, stain, finish coating. Identify colour and each paint type from the list of colours and paint systems.

1.7 DELIVERY, STORAGE AND HANDLING

- .1 Pack, ship, handle and unload materials in accordance with Section 01 61 00 - Common Product Requirements and manufacturer's written instructions.
- .2 Identify products and materials with labels indicating:
 - .1 Manufacturer's name and address.
 - .2 Type of paint or coating.
 - .3 Compliance with applicable standard.
 - .4 Colour number in accordance with established colour schedule.
- .3 Remove damaged, opened and rejected materials from site.
- .4 Provide and maintain dry, temperature controlled, secure storage.
- .5 Follow manufacturer's recommendations regarding storage and handling.
- .6 Store materials and supplies away from heat generating devices.
- .7 Store materials and equipment in well ventilated area with temperature range 7 degrees C to 30 degrees C.

- .8 Store temperature sensitive products above minimum temperature as recommended by manufacturer.
- .9 Keep areas used for storage, cleaning and preparation clean and orderly. After completion of operations, return areas to clean condition, to the Departmental Representative's satisfaction.
- .10 Remove paint materials from storage only in quantities required for same day use.
- .11 Satisfy WHMI requirements regarding use, storage, handling and disposal of hazardous goods.
- .12 Fire Safety Requirements:
 - .1 Provide 9 kg Type ABC dry chemical fire extinguishers adjacent to storage area.
 - .2 Store oily rags, waste products, empty containers and materials subject to spontaneous combustion in ULC approved, sealed containers and remove from site on a daily basis.
 - .3 Handle, store, use and dispose of flammable and combustible materials in accordance with National Fire Code of Canada requirements.

1.8 SITE CONDITIONS

- .1 Heating, Ventilation and Lighting:
 - .1 Ventilate enclosed spaces.
 - .2 Provide heating facilities to maintain ambient air and substrate temperatures above 10 degrees C for 24 hours before, during and after paint application until paint has cured sufficiently.
 - .3 Provide continuous ventilation for seven days after completion of application of paint.
 - .4 Coordinate use of existing ventilation system with Departmental Representative and ensure its operation during and after application of paint as required.
 - .5 Provide temporary ventilating and heating equipment where permanent facilities are not available or supplemental ventilating and heating equipment if ventilation and heating from existing system is inadequate to meet minimum requirements.
 - .6 Prior to commencing work, ensure a minimum lighting level of 323 Lux on surfaces to be painted. Provide adequate lighting appliances and equipment.
- .2 Temperature, Humidity and Substrate Moisture Content Levels:
 - .1 Unless pre-approved written approval by Departmental Representative and product manufacturer, perform no painting when:
 - .1 Ambient air and substrate temperatures are below 10 degrees C.
 - .2 Substrate temperature is above 32 degrees C unless paint is specifically formulated for application at high temperatures.
 - .3 Substrate and ambient air temperatures are not expected to fall within MPI or paint manufacturer's prescribed limits.
 - .4 The relative humidity is under 85% or when the dew point is more than 3 degrees C variance between the air/surface temperature.
 - .5 Rain or snow are forecast to occur before paint has thoroughly cured or when it is foggy, misty, raining or snowing at site.
 - .2 Perform painting work when maximum moisture content of the substrate is below:
 - .1 12% for concrete and masonry.
 - .2 15% for wood.
 - .3 12% for plaster and gypsum board.
 - .3 Test for moisture using calibrated electronic Moisture Meter. Test concrete floors for moisture using "cover patch test".
 - .4 Test concrete, masonry and plaster surfaces for alkalinity as required.
- .3 Surface and Environmental Conditions:
 - .1 Apply paint finish in areas where dust is no longer being generated by related construction operations or when wind or ventilation conditions are such that airborne particles will not affect quality of finished surface.
 - .2 Apply paint to adequately prepared surfaces and to surfaces within moisture limits.
 - .3 Apply paint when previous coat of paint is dry or adequately cured.
- .4 Additional interior application requirements:
 - .1 Apply paint finishes when temperature at location of installation can be satisfactorily maintained within manufacturer's recommendations.

1.9 LOW-EMITTING MATERIALS

- .1 VOC content of adhesives, sealants and primers for sealants used inside the building (i.e., up to the inside face of sealing system) below current VOC levels of regulation no. 1168 of the South Coast Air Quality Management District (SCAQMD), dated June 2006.
- .2 Paints, coatings and primers used inside the building (i.e. up to the inside face of sealing system) and applied on site must:
 - .1 Paints, coatings and primers used on walls and ceilings must not exceed VOC levels established by Green Seal standard GS-11, Paints, first edition, May 20, 1993.
 - .2 Anti-corrosive and anti-rust paint applied to interior iron-based metal substrates must not exceed VOC levels established by Green Seal GC-03, Anti-Corrosive Paints, second edition, January 7, 1997.
- .3 Clear finishes for wood, floor coatings, stains and shellac applied to interior surfaces must not exceed VOC levels established by the South Coast Air Quality Management District (SCAQMD) Rule 1113, Architectural Coatings, in force on January 1, 2004.

1.10 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .2 Place materials defined as hazardous or toxic in designated containers.
- .3 Fold up metal banding, flatten and place in designated area for recycling.
- .4 Return solvents for reuse or appropriate disposal and oil soaked rags for bleaching or appropriate disposal.
- .5 Ensure emptied containers are sealed and stored safely.
- .6 Dispose of surplus chemicals and finish materials, in accordance with federal, provincial and municipal regulations.

Part 2 PRODUCTS

2.1 MATERIALS

- .1 Paint materials listed in the MPI Approved Products List (APL) are acceptable for use on this project.
- .2 Provide paint materials for paint systems from single manufacturer.
- .3 Only qualified products with "Environmentally Friendly" rating are acceptable for use on this project.
- .4 Paints, coatings, adhesives, solvents, cleaners, lubricants, and other fluids:
 - .1 Waterborne, washable products.
 - .2 Non-flammable and biodegradable.
 - .3 Manufactured without compounds which contribute to ozone depletion in the upper atmosphere.
 - .4 Manufactured without compounds which contribute to smog in the lower atmosphere.
 - .5 Do not contain methylene chloride, chlorinated hydrocarbons, toxic metal pigments.
- .5 Manufacture and transport recycled water-borne surface coatings, including disposal of waste generated by project, in compliance with relevant government bylaws, regulations and laws, including the Fisheries Act and the Canadian Environmental Protection Act in the case of installations located in Canada.
- .6 Flash point: 61.0 degrees C or greater for water-borne surface coatings and recycled water-borne surface coatings.

2.2 COLOURS

- .1 Consider a selection of eight (8) colors.
- .2 Second coat in three coat system to be tinted slightly lighter colour than top coat to show visible difference between coats.

2.3 MIXING AND TINTING

- .1 Tint products prior to delivery to site. Tinting on site is not allowed.
- .2 Do not exceed thinner quantity recommended by manufacturer to add to paint. Do not use kerosene or similar organic solvents to thin water-based paints.
- .3 Carefully follow manufacturer's instructions for diluting spray applied paint. Obtain written instructions from Departmental Representative if necessary instructions do not appear on the container.
- .4 Re-mix paint in containers prior to and during application to ensure break-up of lumps, complete dispersion of settled pigment, and colour and gloss uniformity.
- .5 Provide three finish coats for accent colours including tinted base coat or alternative as recommended by manufacturer.

2.4 INTERIOR PAINTING SYSTEMS

- .1 Concrete and concrete block walls:
 - .1 INT 4.2D - High performance architectural latex Eggshell finish.
- .2 Gypsum walls and partitions:
 - .1 INT 9.2M - Institutional low odour/low VOC, Velvet finish for wall and matte finish for ceiling.
- .3 Ferrous metal surfaces:
 - .1 INT 5.1R - High performance architectural latex, Semi-gloss finish.
- .4 Zinc-coated ferrous metal:
 - .1 INT 5.3M - High performance architectural latex, Semi-gloss finish.

Part 3 EXECUTION

3.1 GENERAL

- .1 Perform preparation and operations for interior painting in accordance with MPI Architectural Painting Specifications Manual except where specified otherwise.
- .2 Apply paint materials in accordance with paint manufacturer's written application instructions.

3.2 AMBIENT CONDITIONS

- .1 Investigate existing substrates for problems related to proper and complete preparation of surfaces to be painted. Report to Departmental Representative damages, defects, unsatisfactory or unfavourable conditions before proceeding with work.
- .2 Conduct moisture testing of surfaces to be painted using properly calibrated electronic moisture meter, except test concrete floors for moisture using simple "cover patch test". Do not proceed with work until conditions fall within acceptable range as recommended by manufacturer.
- .3 Maximum moisture content as follows:
 - .1 Stucco, plaster and gypsum board: 12%.
 - .2 Concrete: 12%.
 - .3 Clay and Concrete Block/Brick: 12%.
 - .4 Wood: 15%.

- .4 Protect passing pedestrians, building occupants and general public in and about the building.
- .5 Remove electrical cover plates, light fixtures, surface hardware on doors, bath accessories and other surface mounted equipment, fittings and fastenings prior to undertaking painting operations. Identify and store items in secure location and re-installed after painting is completed.
- .6 Move and cover furniture and portable equipment as necessary to carry out painting operations. Replace as painting operations progress.
- .7 Place "WET PAINT" signs in occupied areas as painting operations progress. Signs to approval of Departmental Representative.

3.3 PROTECTION

- .1 Protect existing building surfaces and adjacent structures from paint spatters, markings and other damage by suitable non-staining covers or masking. If damaged, clean and restore surfaces as directed by Departmental Representative.
- .2 Protect items that are permanently attached such as Fire Labels on doors and frames.
- .3 Protect factory finished products and equipment.

3.4 SURFACE PREPARATION

- .1 Clean and prepare surfaces in accordance with MPI Architectural Painting Specification Manual requirements. Refer to MPI Manual in regard to specific requirements and as follows.
 - .1 Remove dust, dirt, and other surface debris by vacuuming, and wiping with dry, clean cloths.
 - .2 Wash surfaces with a biodegradable detergent and bleach where applicable and clean warm water using a stiff bristle brush to remove dirt, oil and other surface contaminants.
 - .3 Rinse scrubbed surfaces with clean water until foreign matter is flushed from surface.
 - .4 Allow surfaces to drain completely and allow to dry thoroughly.
 - .5 Prepare surfaces for water-based painting, water-based cleaners should be used in place of organic solvents.
 - .6 Many water-based paints cannot be removed with water once dried. Minimize use of mineral spirits or organic solvents to clean up water-based paints.
- .2 Prevent contamination of cleaned surfaces by salts, acids, alkalis, other corrosive chemicals, grease, oil and solvents before prime coat is applied and between applications of remaining coats. Apply primer, paint, or pretreatment as soon as possible after cleaning and before deterioration occurs.
- .3 Where possible, prime non-exposed surfaces of new wood surfaces before installation. Use same primers as specified for exposed surfaces.
 - .1 Apply vinyl sealer to MPI #36 over knots, pitch, sap and resinous areas.
 - .2 Apply wood filler to nail holes and cracks.
 - .3 Tint filler to match stains for stained woodwork.
- .4 Sand and dust between coats as required to provide adequate adhesion for next coat and to remove defects visible from a distance up to 1000 mm.
- .5 Clean metal surfaces to be painted by removing rust, loose mill scale, welding slag, dirt, oil, grease and other foreign substances in accordance with MPI requirements. Remove traces of blast products from surfaces, pockets and corners to be painted by [brushing with clean brushes and vacuum cleaning.
- .6 Touch up of shop primers with primer as specified in relevant section. Major touch-ups, including cleaning and painting field assemblies, welds, rivets, bolts, nuts and washers and rusted surfaces must be done by supplier of products.

3.5 MIXING PAINT

- .1 Re-mix paint in containers prior to and during application to ensure break-up of lumps, complete dispersion of settled pigment, and colour and gloss uniformity.
- .2 Carefully follow manufacturer's instructions for diluting spray applied paint. Obtain written instructions from Departmental Representative if necessary instructions do not appear on the container.

3.6 APPLICATION

- .1 Method of application to be as approved by Departmental Representative. Apply paint by roller. Conform to manufacturer's application instructions unless specified otherwise.
- .2 Apply paint uniformly, with no streaks, drips, brush marks or other defects. Ensure paint adheres to substrate.
- .3 Paint or finish all exposed surfaces, except surfaces specifically excluded on finish schedules, drawings or described in these specifications. Apply additional final coats if defects are visible after applying base coats. Inspect work prior to application of last coat.
- .4 Verify condition of surfaces not specified in specifications with Departmental Representative.
- .5 Brush and Roller Application:
 - .1 Apply paint in uniform layer using brush and/or roller type suitable for application.
 - .2 Work paint into cracks, crevices and corners.
 - .3 Paint surfaces and corners not accessible to brush using spray, daubers and/or sheepskins, as authorized by Departmental Representative.
 - .4 Spray paint porous surfaces, such as firestopping products on steel structure.
 - .5 Brush and/or roll out runs and sags, and over-lap marks. Rolled surfaces free of roller tracking and heavy stipple.
 - .6 Rolled surfaces free of roller tracking and heavy stipple.
- .6 Apply coats of paint continuous film of uniform thickness. Repaint thin spots or bare areas before next coat of paint is applied.
- .7 Allow surfaces to dry and properly cure after cleaning and between subsequent coats for minimum time period as recommended by manufacturer.
- .8 Sand and dust between coats to remove visible defects.
- .9 Finish surfaces both above and below sight lines as specified for surrounding surfaces, including such surfaces as tops of interior cupboards and cabinets and projecting ledges.
- .10 Finish edges and door frames after doors are adjusted, as prescribed for each door.
- .11 Apply minimum two (2) coats paint to surfaces to be painted, in addition to primer and base coats.
- .12 Apply minimum two finish coats to surfaces to be repaired or repainted, of same type or compatible with existing paint.
- .13 Peindre les éléments insérés dans le béton ou tous autres éléments en appareillant la couleur et le lustre de la surface contre laquelle ils apparaissent, à la satisfaction du Représentant du ministère.
- .14 Paint assembly panels prior to installation of mechanical and electrical equipment.
- .15 Dismantle, paint and reassemble grilles, access panels and other movable elements when dry.
- .16 Do not paint labels or instruction plates.
- .17 Do not paint sealants in general, except with modified elastomeric latex. Paint minimum three after application. Match colour to adjacent surfaces.
- .18 Paint walls 100 mm above suspended acoustic ceiling.

3.7 FIELD QUALITY CONTROL

- .1 Advise Departmental Representative when surfaces and applied coating is ready for inspection. Do not proceed with subsequent coats until previous coat has been approved.

3.8 RESTORATION

- .1 Clean and re-install hardware items removed before undertaken painting operations.
- .2 Remove protective coverings and warning signs as soon as practical after operations cease.
- .3 Remove paint splashings on exposed surfaces that were not painted. Remove smears and spatter immediately as operations progress, using compatible solvent.
- .4 Protect freshly completed surfaces from paint droppings and dust to approval of Departmental Representative. Avoid scuffing newly applied paint.
- .5 Restore areas used for storage, cleaning, mixing and handling of paint to clean condition as approved by Departmental Representative.

END OF SECTION