

Part 1 General

1.1 SECTION	.1	Interior panels for walls and ceilings.
<u>INCLUDES</u>	.2	Panel and joint treatment.
	.3	Non-loadbearing metal stud wall framing.
	.4	Metal channel ceiling framing.
	.5	Installation of access panels provided by others.
1.2 RELATED	.1	Section 07 21 00 - Building Insulation:
<u>SECTIONS</u>		Acoustic and Thermal insulation.
	.2	Section 07 92 00 - Joint Sealants.
	.3	Mechanical and Electrical Divisions: Supply of access panels.
1.3 REFERENCES	.1	ANSI A118.9, Cementitious Backer Units (CBU).
	.2	ASTM C475/C475M-15 - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.
	.3	ASTM C645-14 - Specifications for Non-Structural Steel Framing Members.
	.4	ASTM C754-15 - Installation of Steel Framing Members to Receive Screw-Attached Gypsum Board.
	.5	ASTM C840-13 - Standard Specification for Application and Finishing of Gypsum Board.
	.6	ASTM C1002-14 - Steel Self-Piercing, Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.
	.7	ASTM C1178 / C1178M-13 - Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel.

- .8 ASTM C1278 / C1278M-07a(2011), Standard Specification for Fiber-Reinforced Gypsum Panel.
- .9 ASTM C1280-13a - Standard Specification for Application of Gypsum Sheathing.
- .10 ASTM C1396/C1396M-14a, Standard Specification for Gypsum Board.
- .11 ASTM D3273-12 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
- .12 ASTM E90-09 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
- .13 ASTM E119-15 - Method for Fire Tests of Building Construction and Materials.
- .14 GA-214-15 (Gypsum Association) - Recommended Specification: Levels of Gypsum Board Finish.
- .15 GA-216-13 (Gypsum Association) - Application and Finishing of Gypsum Board.
- .16 GA-801-07 (Gypsum Association) - Handling Gypsum Board.

1.4 SUBMITTALS
FOR REVIEW

- .1 Submit in accordance with Section 01 33 00.
- .2 Product Data: Provide data on metal framing, gypsum board, joint tape.
- .3 Samples: Submit samples for exterior fasteners for all applications.

1.5 QUALITY
ASSURANCE

- .1 Perform Work in accordance with ASTM C840.
- .2 Applicator Qualifications: Company specializing in performing the work of this

section with minimum 5 years documented experience.

- .3 Handling Gypsum Board: Comply with GA-801.

Part 2 Products

2.1 FRAMING MATERIALS

- .1 Studs and Tracks: ASTM C645; galvanized sheet steel, 25 gauge unless indicated otherwise, C-shape, with knurled faces.
- .2 Furring, Framing, and Accessories: ASTM C645 and GA-216. Use 200 mm wide 18 gauge studs for blocking for support of finishes and fixtures.
- .3 Fasteners: ASTM C1002. Exterior finish to be corrosion-resistant.
- .4 Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.

2.2 PANEL MATERIALS

- .1 Standard Gypsum Board: ASTM C1396/C1396M, thickness as indicated, maximum available length in place; ends square cut, tapered edges.
- .2 Gypsum Board (Type X): ASTM C1396/C1396M, fire resistive type, UL, ULC, or ITS rated; thickness as indicated, maximum available length in place; ends square cut, tapered edges.
- .3 Gypsum Board (Abuse Resistant): ASTM C1396 abuse resistant, thickness as indicated, maximum available length in place; ends square cut, tapered edges.

2.3 ACCESSORIES

- .1 Access Panels: Supplied by others, installed by this Section.
- .2 Sound Attenuation Insulation: to Section 07 21 00.
- .3 Acoustic Sealant: to Section 07 92 00.

- .4 Corner Beads: GA-216, Metal corner bead.
- .5 Edge Trim: GA-216; Casing bead, L-bead, LK-bead, LC-bead and Control joints, as required.
- .6 Joint Materials: ASTM C475; paper reinforcing tape, joint compound, adhesive, and water. Mesh tape only where required by ULC Design.
- .7 Panel Fasteners: ASTM C1002, Type S12 screws. Exterior finish to be corrosion-resistant.

Part 3 Execution

3.1 EXAMINATION

- .1 Verify that site conditions are ready to receive work and opening dimensions are as instructed by the manufacturer.

3.2 METAL STUD
INSTALLATION

- .1 Install studs in accordance with ASTM C754 and manufacturer's instructions.
- .2 Install sill plate gaskets to all tracks in contact with concrete, top and bottom.
- .3 Metal Stud Spacing: as indicated.
- .4 Refer to Drawings for indication of partitions extending stud framing through the ceiling to the structure above. Maintain clearance under structural building members to avoid deflection transfer to studs. Provide extended leg ceiling runners.
- .5 Door and Window Opening Framing: Install double studs at frame jambs. Install stud tracks on each side of opening, at frame head height, and between studs and adjacent studs.
- .6 Blocking: Install blocking for support of plumbing fixtures, toilet partitions, wall cabinets, wood frame opening, toilet accessories, hardware, kitchen equipment,

wall-mounted door stops, firestopping and as required.

3.3 WALL FURRING
INSTALLATION

- .1 Erect furring for direct attachment to concrete masonry and concrete walls.
- .2 Erect furring channels; space maximum 400 mm on centre, not more than 100 mm from floor and ceiling lines and abutting walls. Secure in place on alternate channel flanges at maximum 600 mm on centre.

3.4 FURRING FOR
FIRE RATINGS

- .1 Install furring as required for fire resistance ratings indicated.

3.5 CEILING
FRAMING
INSTALLATION

- .1 Install in accordance with ASTM C754 and manufacturer's instructions.
- .2 Coordinate location of hangers with other work.
- .3 Install ceiling framing independent of walls, columns, and above ceiling work.
- .4 Reinforce openings in ceiling suspension system which interrupt main carrying channels or furring channels, with lateral channel bracing. Extend bracing minimum 600 mm past each end of openings.
- .5 Laterally brace entire suspension system.

3.6 ACCESSORIES
INSTALLATION

- .1 Install access panels to locations required for access.
- .2 Install resilient channels at maximum 600 mm on centre. Locate joints over framing members.
- .3 Place acoustic insulation in partitions tight within spaces, around cut openings, behind and around electrical and mechanical items within or behind partitions, and tight to items passing through partitions.
- .4 Install acoustic sealant at gypsum board perimeter at:

- .1 Metal Framing: Two beads.
 - .2 Base Layer.
 - .3 Face Layer.
- .4 Caulk all penetrations of partitions by conduit, pipe, duct work, rough-in boxes.

3.7 PANEL
INSTALLATION

- .1 Install panels in accordance with manufacturer's written instructions.
- .2 Erect single layer board in most economical direction, with ends and edges occurring over firm bearing.
- .3 Install panels maximum 3 mm above floor level.
- .4 Erect single layer fire rated gypsum board vertically, with edges and ends occurring over firm bearing.
- .5 Use screws when fastening to metal furring or framing. Use wafer-head screws for attachment of backer board.
- .6 Double Layer Applications: Secure second layer to first with fasteners. Offset joints of second layer from joints of first layer.
- .7 Treat cut edges and holes in mineral fibre cement panels with exterior latex masonry sealer.
- .8 Place control joints consistent with lines of building spaces or as directed.
- .9 Place corner beads at external corners. Use longest practical length. Place edge trim where gypsum board abuts dissimilar materials.

3.8 JOINT
TREATMENT

- .1 Finish in accordance with GA-214 Level 4.
- .2 Feather coats on to adjoining surfaces so that camber is maximum 0.8 mm.
- .3 Taping, filling, and sanding is not required at surfaces behind adhesive applied ceramic tile.

3.9	TOLERANCES	.1	Maximum Variation of Finished Gypsum Board Surface from True Flatness: 3 mm in 3 m in any direction.
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END OF SECTION

PART 1 - GENERAL

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| <u>1.1 REFERENCES</u> | .1 | American Society for Testing and Materials International (ASTM) |
| | .1 | ASTM F 1303-04, Standard Specification for Sheet Vinyl Floor Covering with Backing. |
| | .2 | Health Canada/Workplace Hazardous Materials Information System (WHMIS) |
| | .1 | Material Safety Data Sheets (MSDS). |
| | .3 | South Coast Air Quality Management District (SCAQMD), California State |
| | .1 | SCAQMD Rule 1113-04, Architectural Coatings. |
| | .2 | SCAQMD Rule 1168-05, Adhesives and Sealants Applications. |
| <u>1.2 ACTION AND INFORMATIONAL SUBMITTALS</u> | .1 | Provide samples in accordance with Section 01 33 00 - Submittal Procedures. |
| | .1 | Submit duplicate 300 mm long base. |
| | .2 | Closeout Submittals: |
| | .1 | Provide maintenance data for resilient flooring for incorporation into manual specified in Section 01 78 00 - Closeout Submittals. |
| <u>1.3 DELIVERY, STORAGE AND HANDLING</u> | .1 | Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements. |
| | .2 | Waste Management and Disposal: |
| | .1 | Separate waste materials for reuse and recycling in accordance with Section 01 74 22 - Construction/Demolition Waste Management and Disposal. |

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| <u>1.4 AMBIENT
CONDITIONS</u> | .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. |
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PART 2 - PRODUCTS

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| <u>2.1 MATERIALS</u> | .1 | Resilient base: continuous, top set, complete with premoulded end stops and external corners. |
| | .1 | Type: rubber. |
| | .2 | Style: straight. |
| | .3 | Thickness: 3.17 mm. |
| | .4 | Height: 152.4 mm. |
| | .5 | Lengths: cut lengths minimum 2400 mm. |
| | .6 | Colour: Black. |
| | .2 | Primers and adhesives: of types recommended by resilient flooring manufacturer for specific material on applicable substrate, above, on or below grade. |
| | .1 | Base adhesives: |
| | .1 | Adhesive: maximum VOC limit 50 g/L to SCAQMD Rule 1168. |

PART 3 - EXECUTION

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| <u>3.1 MANUFACTURER'S
INSTRUCTIONS</u> | .1 | Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheets. |
| <u>3.2 APPLICATION:
BASE</u> | .1 | Lay out base to keep number of joints at minimum. |

- .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.
- .8 Use toeless type base where floor finish will be carpet, coved type elsewhere.
- .9 Install toeless type base before installation of carpet on floors.
- .10 Heat weld base in accordance with manufacturer's printed instructions.

3.3 CLEANING

- .1 Proceed in accordance with Section 01 74 11 - Cleaning.
- .2 Remove excess adhesive from floor, base and wall surfaces without damage.
- .3 Clean, seal and wax floor and base surface to flooring manufacturer's printed instructions.

END OF SECTION

Part 1 General

1.1 RELATED
SECTIONS

- .1 Section 06 10 00 - Rough Carpentry.
- .2 Section 06 20 00 - Finish Carpentry.
- .3 Section 08 11 13 - Metal Doors and Frames.
- .4 Section 09 21 16 - Gypsum Board Assemblies.

1.2 REFERENCES

- .1 Master Painters Institute (MPI)
 - .1 MPI Architectural Painting Specifications Manual, latest edition.

1.3 QUALITY
ASSURANCE

- .1 Qualifications: Contractor with minimum of five years proven satisfactory experience. When requested, provide list of last three comparable jobs including, job name and location, specifying authority, and project manager.

1.4 SUBMITTALS

- .1 Submittals in accordance with Section 01 33 00.
- .2 Submit product data and instructions for each paint and coating product to be used.
- .3 Samples: Submit full range colour sample chips to indicate where colour availability is restricted.

1.5 DELIVERY,
STORAGE AND HANDLING

- .1 Packing, Shipping, Handling and Unloading: in accordance with manufacturer's written instructions.
- .2 Remove damaged, opened and rejected materials from site.
- .3 Storage and Protection:
 - .1 Provide and maintain dry, temperature controlled, secure storage.
 - .2 Store materials and supplies away from

heat generating devices.

- .3 Store materials and equipment in well ventilated area with temperature range 7°C to 30°C.

1.6 SITE
CONDITIONS

.1 Heating, Ventilation and Lighting:

- .1 Provide heating facilities to maintain ambient air and substrate temperatures above 10°C for 24 hours before, during and after paint application until paint has cured sufficiently.
- .2 Provide continuous ventilation for seven days after completion of application of paint.
- .3 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.

.2 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.

Part 2 Products

2.1 MATERIALS

- .1 Paint materials shall be listed on the current edition of the MPI Approved Products List. Where selection of finishes from MPI Approved Products List is limited, selection of alternate materials will be at the option of the Departmental Representative.
- .2 Provide paint materials for paint systems from single manufacturer.
- .3 Conform to latest MPI requirements for interior and exterior painting work including preparation and priming.

2.2 COLOURS

- .1 Departmental Representative will provide Colour Schedule after Contract award.
- .2 Selection of colours from manufacturer's full range of colours.
- .3 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 Perform colour tinting operations prior to delivery of paint to site.
- .2 Use and add thinner in accordance with paint manufacturer's recommendations. Do not use kerosene or similar organic solvents to thin water-based paints.
- .3 Thin paint for spraying in accordance with paint manufacturer's instructions.

2.4 GLOSS/SHEEN RATINGS

- .1 Paint gloss shall be defined as the sheen rating of applied paint, in accordance with the following values:

Gloss Level	Units @ 60°	Units @ 85°
G1 - matte	0 to 5	max. 10
G2 - velvet	0 to 10	10 to 35
G3 - eggshell	10 to 25	10 to 35
G4 - satin	20 to 35	min. 35
G5 - semi-gloss	35 to 70	
G6 - gloss	70 to 85	
G7 - high gloss	> 85	

- .2 Gloss level ratings of painted surfaces shall be selected by Departmental Representative after Contract Award, unless noted otherwise.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and data sheet.

3.2 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.

3.3 PREPARATION

- .1 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.
 - .4 Protect passing pedestrians, building occupants and general public in and about the building.
- .2 Clean and prepare surfaces in accordance with MPI Architectural Painting Specification Manual requirements.
- .3 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.

3.4 APPLICATION

- .1 Conform to manufacturer's application instructions unless specified otherwise.
- .2 Apply coats of paint continuous film of uniform thickness. Repaint thin spots or bare areas before next coat of paint is applied.
- .3 Allow surfaces to dry and properly cure after cleaning and between subsequent coats for minimum time period as recommended by manufacturer.
- .4 Sand and dust between coats to remove visible defects.
- .5 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.
- .6 Finish top, bottom, edges and cutouts of

doors after fitting as specified for door surfaces.

3.5 INTERIOR PAINT
AND COATING SYSTEMS

- .1 Interior painting systems to be based on MPI Premium grade unless noted otherwise. The following is list of principal items only. Surfaces not included in this schedule shall be painted at the discretion of the Departmental Representative.
- .2 Structural Steel: overhead and structural members; columns, beams, joists, etc. and adjacent fabrications.
 - .1 INT 5.1C - Waterborne Dry Fall Finish:
 - .1 One coat primer,
 - .2 One coat Waterborne Dry Fall MPI #118.
- .3 Metal Fabrications: angle lintels.
 - .1 INT 5.1E - Alkyd Finish:
 - .1 One coat alkyd metal primer (omit when shop primed).
 - .2 Two finish coats alkyd.
- .4 Galvanized Metal: miscellaneous overhead steel pipes, decking, ducts, conduit, etc. Including ceiling suspension without acoustic panels.
 - .1 INT 5.3F - Alkyd dry fall finish [for use in low contact/low traffic areas only]
 - .1 Two coats Alkyd Dry Fall MPI #55.
- .5 Galvanized Metal: new and existing interior steel man doors and frames.
 - .1 INT 5.3L Alkyd finish (over non-cementitious primer):
 - .1 One coat primer (omit if re-paint),
 - .2 Two finish coats alkyd.

- .6 Plywood Mounting Boards: electrical room.
 - .1 INT 6.4P - Pigmented Fire Retardant finish:
 - .1 Apply to ULC approved procedures.
 - .2 Use MPI#64 Fire Retardant Coating, Latex, Interior, Flat (ULC Approved).
- .7 Existing Gypsum Board and Plaster Surfaces:
 - .1 Perform testing of existing paint finishes to confirm type of paint. Select from following based on test results:
 - .2 RIN 9.2A - Latex: gloss level to match.
 - .3 RIN 9.2C - Alkyd: gloss level to match.
- .8 New Gypsum Board Surfaces:
 - .1 Select from the following to match paint type and gloss level for existing concrete gypsum board and plaster surfaces:
 - .1 INT 9.2A - Latex (over latex sealer): one coat primer/sealer MPI#50, two finish coats latex (to MPI Premium Grade).
 - .2 INT 9.2C - Alkyd finish (over latex sealer): one coat primer/sealer MPI#50, two finish coats latex (to MPI Premium Grade).
- .9 Stucco: walls and soffits
 - .1 EXT 9.1C - Elastomeric coating (2 coats).
- .10 Concrete Surfaces (Horizontal):
 - .1 INT 3.2C - Epoxy finish.
 - .1 Two coats.
- 3.6 EXTERIOR PAINT COATING SYSTEMS
 - .1 Galvanized Metal: fabrications, railings, new and existing doors and frames.
 - .1 EXT 5.3B - Alkyd Finish:
 - .1 One coat non-cementitious primer,
 - .2 Two finish coats alkyd.
 - .2 Stucco: walls and soffits
 - .1 EXT 9.1C - Elastomeric coating finish - 2 coats.

3.7 MECHANICAL AND
ELECTRICAL EQUIPMENT

- .1 Paint finished area exposed conduits, piping, hangers, ductwork and other mechanical and electrical equipment with colour and finish to match adjacent surfaces, except as indicated.
- .2 Other unfinished areas: leave exposed conduits, piping, hangers, ductwork and other mechanical and electrical equipment in original finish and touch up scratches and marks.
- .3 Touch up scratches and marks on factory painted finishes and equipment with paint as supplied by manufacturer of equipment.
- .4 Do not paint over nameplates.
- .5 Keep sprinkler heads free of paint.

3.8 SITE
TOLERANCES

- .1 Walls: no defects visible from a distance of 1000 mm at 90 degrees to surface.
- .2 Ceilings: no defects visible from floor at 45 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.

3.9 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. Avoid scuffing newly applied paint.

END OF SECTION