
Partie 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 03 30 00 – Cast-in Place Concrete.
- .2 Section 05 50 00 – Metal Fabrications.
- .3 Section 05 51 29 – Metal Stairs and Ladders.
- .4 Section 06 20 00 – Finish Carpentry.
- .5 Section 06 40 00 – Architectural Woodwork.
- .6 Section 09 21 16 – Gypsum Board Assemblies.
- .7 Section 09 65 16 – Resilient Sheet Flooring.
- .8 Section 09 68 13 – Tile Carpeting.
- .9 Section 09 91 23 – Interior Painting.
- .10 Section 10 21 13.13 – Metal Toilet Compartments.
- .11 Section 10 28 10 – Toilet and Bath Accessories.
- .12 Section 12 48 16 – Entrance Floor Grilles.
- .13 Section 12 50 00 – Furniture.
- .14 Section 14 20 06 – Elevators.
- .15 Division 22 – Plumbing, for appliances, prefabricated shower bases and connections.

1.2 REFERENCES

- .1 American National Standards Institute (ANSI)/Ceramic Tile Institute (CTI)
 - .1 ANSI A108.1-99, Specification for the Installation of Ceramic Tile (Includes ANSI A108.1A-C, 108.4-.13, A118.1-.10, ANSI A136.1).
 - .2 CTI A118.3-99, Specification for Chemical Resistant, Water Cleanable Tile Setting and Grouting Epoxy and Water Cleanable Tile Setting Epoxy Adhesive (included in ANSI A108.1).
 - .3 CTI A118.4-92, Specification for Latex Cement Mortar (included in ANSI A108.1).
 - .4 CTI A118.5-92, Specification for Chemical Resistant Furan Resin Mortars and Grouts for Tile Installation (included in ANSI A108.1).
 - .5 CTI A118.6-92, Specification for Ceramic Tile Grouts (included in ANSI A108.1).
- .2 American Society for Testing and Materials International (ASTM)
 - .1 ASTM C144-04, Specification for Aggregate for Masonry Mortar.
 - .2 ASTM C207-06, Specification for Hydrated Lime for Masonry Purposes.
 - .3 ASTM C847-06, Specification for Metal Lath.

- .4 ASTM C979-05, Specification for Pigments for Integrally Coloured Concrete.
- .3 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-51.34-M86 (C1988), Vapour Barrier, Polyethylene Sheet for Use in Building Construction.
 - .2 CGSB 71-GP-22M-78 (MODIF.), Adhesive, Organic, for Installation of Ceramic Wall Tile.
 - .3 CAN/CGSB-75.1-M88, Tile, Ceramic.
 - .4 CAN/CGSB-25.20-95, Surface Sealer for Floors.
- .4 South Coast Air Quality Management District (SCAQMD), California State
 - .1 SCAQMD Rule 1168-05, Adhesives and Sealants Applications.
- .5 Terrazzo Tile and Marble Association of Canada (TTMAC)
 - .1 Tile Specification Guide 09 30 00, 2006/2007, Tile Installation Manual.
 - .2 Tile Maintenance Guide 2000.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Provide product data in accordance with Section 01 33 00 - Submittal Procedures.
 - .1 Include manufacturer's information on:
 - .1 Ceramic tile, marked to show each type, size, and shape required.
 - .2 Chemical resistant mortar and grout (Epoxy and Furan).
 - .3 Cementitious backer unit.
 - .4 Dry-set cement mortar and grout.
 - .5 Divider strip.
 - .6 Elastomeric membrane and bond coat.
 - .7 Reinforcing tape.
 - .8 Levelling compound.
 - .9 Latex cement mortar and grout.
 - .10 Commercial cement grout.
 - .11 Organic adhesive.
 - .12 Slip resistant tile.
 - .13 Waterproofing isolation membrane.
 - .14 Fasteners.
- .3 Provide samples in accordance with Section 01 33 00 - Submittal Procedures.
 - .1 Base tile: submit duplicate, 300 x 300 mm sample panels of each colour, texture, size, and pattern of tile.
 - .2 Floor tile: submit duplicate, 300 x 300 mm sample panels of each colour, texture, size, and pattern of tile.
 - .3 Wall tile: submit duplicate, 300 x 300 mm sample panels of each colour, texture, size, and pattern of tile.

- .4 Trim shapes, bullnose cap and cove including bullnose cap and base pieces at internal and external corners of vertical surfaces, each type, colour, and size.
- .5 Adhere tile samples to 13 mm thick plywood and grout joints to represent project installation.

1.4 QUALITY ASSURANCE

- .1 Quality Assurance Submittals:
 - .1 Manufacturer's Instructions: manufacturer's installation instructions.

1.5 DELIVERY, STORAGE AND HANDLING

- .1 Packing, shipping, handling and unloading:
 - .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/recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

1.6 AMBIENT CONDITIONS

- .1 Maintain air temperature and structural base temperature at ceramic tile installation area above 12 degrees C for 48 hours before, during, and 48 hours after, installation.
- .2 Do not install tiles at temperatures less than 12 degrees C or above 38 degrees C.
- .3 Do not apply epoxy mortar and grouts at temperatures below 15 degrees C or above 25 degrees C.

1.7 MAINTENANCE

- .1 Extra Materials:
 - .1 Provide maintenance materials in accordance with Section 01 78 00 - Closeout Submittals.
 - .2 Provide minimum 2% of each type and colour of tile required for project for maintenance use. Store where directed.
 - .3 Maintenance material same production run as installed material.

1.8 ACCEPTABLE PRODUCTS AND MATERIALS

- .1 Where a particular brand name is stipulated, see Instructions to Bidders for procedure for requesting approval of substitute materials and products

Partie 2 Products

2.1 FLOOR TILES

- .1 Ceramic tile: C1
 - .1 Ceramic tile: to CAN/CGSB-75.1, 450 mm x 900 mm x 10.5 mm thick.

- .1 Acceptable product:
 - .1 Provenza Q-Stone, Night colour, Naturale finish, 94399R.
 - .2 Replacement product approved by addendum in accordance with Instructions to Bidders.
- .2 Ceramic tile: C2
 - .1 Ceramic tile: to CAN/CGSB-75.1, 300 mm x 600 mm x 10.5 mm thick.
 - .1 Acceptable product:
 - .1 Provenza Q-Stone, Night colour, Naturale finish, 63399R.
 - .2 Replacement product approved by addendum in accordance with Instructions to Bidders.
- .3 Ceramic tile: C3
 - .1 Ceramic tile: to CAN/CGSB-75.1, 300 mm x 600 mm x 9 mm thick.
 - .1 Acceptable product:
 - .1 Ecogres Docks Grigio, 7267105.
 - .2 Replacement product approved by addendum in accordance with Instructions to Bidders.
- .4 Ceramic tile: C4
 - .1 Ceramic tile: to CAN/CGSB-75.1, 50 mm x 50 mm x 6 mm thick.
 - .1 Acceptable product:
 - .1 Techno, light grey, matt finish.
 - .2 Replacement product approved by addendum in accordance with Instructions to Bidders.
- .5 Ceramic tile: C5
 - .1 Ceramic mosaic tile: to CAN/CGSB-75.1, 25 mm x 75 mm x 6 mm thick.
 - .1 Acceptable product:
 - .1 Techno Charcoal, matt finish.
 - .2 Replacement product approved by addendum in accordance with Instructions to Bidders.

2.2 WALL TILE

- .1 Ceramic tile: CCM1
 - .1 Glazed ceramic tile to CAN/CGSB-75.1, 75 mm x 150 mm x 7 mm, White colour, Gloss finish, as selected by Departmental Representative, trim as needed.
- .2 Ceramic tile: CCM2
 - .1 Ceramic tile to CAN/CGSB-75.1, 300 mm x 600 mm x 10.5 mm thick.
 - .1 Acceptable product:
 - .1 Provenza Q-Stone, Day colour, Naturale finish, 63390R.

.2 Replacement product approved by addendum in accordance with Instructions to Bidders.

.3 Ceramic tile: CCM3

.1 Glazed ceramic tile to CAN/CGSB-75.1, 100 mm x 400 mm x 7 mm, White colour, Gloss finish, as selected by Departmental Representative, trim as needed.

2.3 BASE TILE

.1 Base: coved; type, size, colour and texture to match adjacent flooring or wall material, as indicated on drawings.

2.4 STAIR TREADS

.1 Stair Treads: bull nosed edge, non-slip surface, matching floor tile, sized to suit stair tread configuration.

2.5 TRIM SHAPES

.1 Conform to applicable requirements of adjoining floor and wall tile.

.2 Use slip resistant trim shapes for horizontal surfaces of showers, overflow ledges, recessed steps, shower curbs, drying area curbs, and stools.

.3 Use trim shapes sizes conforming to size of adjoining field wall tile, including existing spaces, unless specified otherwise.

.1 Special shapes for:

.1 Base to floor internal corners to provide integral coved vertical and horizontal joint.

.2 Base to floor external corners to provide bullnose vertical edge with integral coved horizontal joint. Use as stop at bottom of openings having bullnose return to wall.

.3 Wall top edge internal corners to provide integral coved vertical joint with bullnose top edge.

.4 Wall top edge external corners to provide bullnose vertical and horizontal joint edge.

2.6 MORTAR AND ADHESIVE MATERIALS

.1 Cement mortar (dry or dry-set): to ANSI A108.1, and as indicated by manufacturer, based on tile type.

.2 Water: potable and free of minerals and chemicals which are detrimental to mortar and grout mixes.

.3 Adhesives: as indicated by manufacturer, based on tile type.

2.7 GROUT

.1 Colouring Pigments:

.1 Pure mineral pigments, limeproof and nonfading, complying with ASTM C979.

- .2 Colouring pigments to be added to grout by manufacturer.
- .3 Job coloured grout are not acceptable.
- .2 All grout colours as indicated by Departmental Representative.
- .3 Latex Cement Grout: to ANSI A108.1, fast curing, high early strength, polymer-modified, stain resistant, sanded mix for floors, unsanded mix for walls and floors with polished tiles commercial tile grout.
- .4 Commercial Cement Grout: to CTI A118.6.
- .5 Dry-Set Grout: to CTI A118.6.

2.8 ACCESSORIES

- .1 Uncoupling membrane: 3 mm thick, orange, high-density polyethylene membrane with a grid structure of 12 x 12 mm square cavities, each cut back in a dovetail configuration, and polypropylene anchoring fleece laminated to underside, to ANSI A118.10.
 - .1 Supply required accessories, including floor drain and base edging.
- .2 Shower base- barrier free: prefabricated and moulded for sloped tiling towards center drain, dimensions as per drawings, 2 sizes required.
- .3 Shower niche : prefabricated wall niche, reinforced extruded polystyrene with backing for better adhesion to cement mortar. Dimensions : 305mm x 305mm x 89mm deep.
- .4 Transition and Reducer Strips: purpose made metal extrusion; stainless steel type.
- .5 Sealant: in accordance with Section 07 92 00 - Joint Sealants. Mildew resistant.
- .6 Transition Strips: purpose made metal extrusion; stainless steel type or anodized aluminum as indicated on drawings.
- .7 Reducer Strips: purpose made metal extrusion; stainless steel or anodized aluminum type; maximum slope of 1:2.
- .8 Expansion joints: 5mm, PVC, every 6m apart maximum or as indicated on drawings
- .9 Thresholds: granite, sizes as indicated on drawings, Polycor Picasso granite type finish, antique finish. Refer to Section 04 43 16 – Granite Veneer Cladding.

2.9 MIXES

- .1 Cement mortar (dry or dry-set): mixed to manufacturer's instructions.
- .2 Levelling coat and grout: mixed to manufacturer's instructions.
- .3 Water: to manufacturer's instructions.

2.10 PATCHING AND LEVELLING COMPOUND

- .1 Cement base, acrylic polymer compound, manufactured specifically for resurfacing and leveling concrete floors. Products containing gypsum are not acceptable.
- .2 Have not less than the following physical properties:
 - .1 Compressive strength - 25 MPa.
 - .2 Tensile strength - 7 MPa.

- .3 Flexural strength - 7 MPa.
- .4 Density - 1.9.
- .3 Capable of being applied in layers up to 50 mm thick, being brought to feather edge, and being trowelled to smooth finish.
- .4 Ready for use in 48 hours after application.

2.11 CLEANING COMPOUNDS

- .1 Specifically designed for cleaning masonry and concrete and which will not prevent bond of subsequent tile setting materials including patching and leveling compounds and elastomeric waterproofing membrane and coat.
- .2 Materials containing acid or caustic material are not acceptable.

Partie 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 datasheets.

3.2 WORKMANSHIP

- .1 Do tile work in accordance with TTMAC Tile Installation Manual 2006/2007, "Ceramic Tile", except where specified otherwise.
- .2 Apply tile or backing coats to clean and sound surfaces. Level rough floors using levelling compound, with maximum tolerance of 6 mm over 3 m, free of bumps or hollows.
- .3 Fit tile around corners, fitments, fixtures, drains and other built-in objects. Maintain uniform joint appearance. Cut edges smooth and even.
- .4 Install decoupling membrane under all floor tiles as recommended by manufacturer, and all large size floor tiles (more than 300 mm x 600 mm). Apply adhesive mortar with notched trowel and embed membrane. Butt joints. Follow decoupling membrane manufacturer's installation instructions.
- .5 Maximum surface tolerance 1:800.
- .6 Make joints between tile uniform and approximately 3 mm wide, plumb, straight, true, even and flush with adjacent tile. Ensure sheet layout not visible after installation. Align patterns.
- .7 Lay out tiles so perimeter tiles are minimum 1/2 size.
- .8 Sound tiles after setting and replace hollow-sounding units to obtain full bond.
- .9 Do inside and outside corners as indicated.
- .10 Use round edged tiles at termination of wall tile panels, except where panel abuts projecting surface or differing plane.

- .11 Install divider strips at junction of tile flooring and dissimilar materials.
- .12 Allow minimum 24 hours after installation of tiles, before grouting.
- .13 Clean installed tile surfaces after installation and grouting cured.
- .14 Make control joints where indicated. Make joint width same as tile joints. Fill control joints with sealant in accordance with Section 07 92 00 - Joint Sealants. Keep building expansion joints free of mortar and grout.
- .15 Install in accordance with TTMAC detail.

3.3 CLEANING

- .1 Proceed in accordance with Section 01 74 11 - Cleaning.

END OF SECTION