
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