

1. General

1.1 SCOPE

- .1 Provide all labour, materials, tools, equipment, and supervision for the supply and installation of all pool (hot tub) deck and tank tiling, grouting, and drain waterproofing as shown on the Drawings and as specified herein.
- .2 This Section applies to tile made from clay, or a mixture of clay and other inorganic materials, that has been fired above red heat in the course of manufacturing and is intended for use as a surfacing material on walls and floors and includes mosaic and porcelain tile.
- .3 All tile installed on pool decks and pool tanks to be certified by manufacturer for use in chlorinated pools.
- .4 Provide concrete surface preparation, including grinding, filling, leveling, crack control membrane, or other acceptable methods as required to facilitate thin set tile installation.
- .5 Install Pool Railings supplied by Section 13 11 45.

1.1 RELATED WORK SPECIFIED IN OTHER SECTIONS

- .1 Pool railings Section 13 11 45
- .2 Pool inlets, jets, drains refer to Mechanical Drawings
- .3 Grounding of metal components refer to Electrical Drawings

1.2 PRODUCT OPTIONS AND SUBSTITUTIONS

- .1 Refer to Division 01 for requirements pertaining to product options and substitutions.

1.3 QUALITY STANDARD

- .1 Do tile work in accordance with Tile Installation Manual, produced by Terrazzo Tile and Marble Association of Canada (TTMAC), except where specified otherwise.
- .2 Installers: Execute work of this Section using qualified personnel skilled in ceramic tile installation, having a minimum of five (5) years proven pool tile experience and have completed tile installations similar in material, design, and extent to that indicated for this project.

1.4 SUBMITTALS

- .1 Submit duplicate samples of each colour, texture, size, and pattern of tile required for this project.

- .2 Adhere tile samples to 12 mm thick plywood and grout joints to represent project installation.
- .3 Obtain approval of each tile sample prior to supplying material to project.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- .1 Deliver packaged materials in original unopened containers.
- .2 Keep delivered material dry. Store cementitious material off damp surfaces.
- .3 Handle products in a manner to avoid damage.

1.6 JOB ENVIRONMENT

- .1 Maintain minimum 13°C air temperature at tile installation area for 24 hours prior to, during, and after installation.

2. Products

2.1 MATERIALS

- .1 Ceramic Mosaic Tile: to CAN/CGSB-75.1-M88, Type 2, Class MR1, Daltile Keystones, to dimensions and patterns indicated on Drawings, in the following colours.
Deck: 50 mm x 50 mm, Daltile Keystones, colour Urban Putty D161.
Perimeter: 50 mm x 50 mm, Daltile Keystones, colour Golden Granite D138.
Basin: 50 mm x 50 mm, Daltile Keystones, colour Waterfall D169.
Seat Edge: 50 mm x 50 mm, Daltile Keystones, colour Suede Gray Speckle D208.
- .2 All tiling to include matching specialty tiles for external corners and coved bases.
- .3 Thin-setting Bed: Laticrete 254 Platinum Multipurpose Thin-set Mortar.
- .4 Epoxy Adhesive: to ANSI A118.3, thin-set bond type, suitable for underwater installation.
- .5 Mortar Materials: to ANSI A118.4 latex modified, portland cement, sand, latex additive, and water.
- .6 Levelling and edge build-up: Laticrete 3701 mortar admix and 226 thick bed mortar.
- .7 Epoxy Grout: to ANSI A118.6, anti-microbial protection and water. Laticrete Spectralock Pro Premium Grout, colour to be selected by architect.
- .8 Waterproofing Membrane: Laticrete Hydro-Ban sheet membrane.
- .9 Minor Filler: Latex and water type, Latapoxy Waterproof Flashing Mortar.

- .10 Sealant: Silicone, conforming to FS TT-S-001543, Class A or B, type to resist continuous chlorinated water submersion without damage or deterioration, yet permanently retain elasticity to function as required. Sealant to be used at all junctions of dissimilar materials. Sealant colour to match adjacent surfaces.
- .11 Crack isolation membrane: to ANSI A118.10 flexible cement- based waterproofing crack membrane, equal to Mapei Mapelastic. Membrane to be used over all concrete pour and crack control joints.

3. Execution

3.1 GENERAL

- .1 Refer to TTMAC Tile Installation Manual 2019-2021.
- .2 All installation to be in strict accordance with the Terrazzo, Tile, and Marble Association of Canada Installation Manual and the Standards and Specifications adopted by the Alberta Floor Covering Association.

3.2 INSPECTION OF SURFACES

- .1 Examine surfaces to receive ceramic tile, setting beds, and accessories before installation begins for defects or deviations that would adversely affect execution and quality.
- .2 Surfaces to be clean, dry, and free of oily or waxy films. Inserts or Mechanical and Electrical work to be installed in or behind tile shall be installed prior to proceeding with tile work.
- .3 Dry-set, latex-portland, and cement mortar methods (thin-set): maximum variation in sub-floor surface 3.2 mm in 3 m, maximum variation in vertical surfaces 3.2 mm in 2.4 m.
- .4 Do not proceed with tile installation work until unsatisfactory conditions are corrected. All other grinding, patching, filling, levelling or other work required to achieve acceptable drainage slopes, levels, or edges shall be the responsibility of this Section

3.3 LAYOUT OF WORK

- .1 Determine locations of control joints, accessories before beginning tile work.
- .2 Lay out tile work to minimize cutting. Avoid cutting tiles to less than ½ tile in size. Locate cuts where possible to be least conspicuous.
- .3 Maintain even joint spacing throughout work.

3.4 INSTALLATION

- .1 All horizontal tile shall have positive slopes to achieve even and continuous drainage. Slope to be constant from high point to drainage location. No ponding of water will be accepted.
- .2 Thin-set tiling: trowel adhesive evenly over areas to be tiled and set tiles accurately and firmly in place. Press and slide tiles firmly into adhesive bed to ensure complete bond. Installation to be in strict accordance with adhesive manufacturer's directions.
- .3 Where necessary to fit special conditions, tiles shall be cut neatly and accurately, and edges shall be ground and buffed smooth.
- .4 Provide control joints over joints in structure. Provide expansion joints over joints in concrete floor slabs as indicated on Structural Drawings. Fill tile joints with caulking as specified. Provide crack isolation membrane over concrete joints.
- .5 Grouting:
 - .1 Force grout into tile joints and finish flush with face, taking care not to scratch tile glaze. Remove all surplus grout before it has hardened and leave tile completely clean.
 - .2 Do not install tile when ambient air temperature and structural base temperature is less than 13°C or greater than 20°C during curing period.
 - .3 Pre-plan tile layout to be symmetrical within wall areas and fittings. Neatly cut tiles around fitments, fixtures, and drains. Accurately form intersections, corners, and returns.
 - .4 Maintain uniform joint width throughout, subject to normal tolerance for tile size.
 - .5 Finish internal and external corners.
 - .6 Sound tiles after setting and remove and replace hollow tiles.
 - .7 In thin-set method, allow tile to set 24 hours before grouting. Barricade floors from foot traffic for 48 hours.
 - .8 Rooms and spaces in which tile work is being installed shall be closed to traffic until tile has set up.
 - .9 If and when required, tile work shall be protected from damage that might be caused by work of other trades.
- .6 Cleaning:
 - .1 Thoroughly clean tile surfaces on completion of grouting. Remove all grout haze, observing tile manufacturer's recommendations as to use of acid or chemical cleaners.
 - .2 Rinse tile thoroughly with clean water before and after chemical cleaners.
 - .3 Polish surface of tile with a soft cloth.
- .7 Protection:
 - .1 Prohibit traffic from using newly tiled floors for at least three (3) days, preferably seven (7) days, or as recommended by tile manufacturer.

- .2 Cover tile floors and pool tanks with heavy-duty, non-staining construction paper, taped in place.
- .3 Promptly as work proceeds, and upon completion, clean up and remove all waste material from the site.

- .8 Installation of Accessories:
 - .1 Installation of all fixed items shall be as per manufacturer's written directions and specifications and be plumb and true, and completely stable for their intended use.
 - .2 Compression anchors to be used for all railings and stanchion posts.
 - .3 Anchors designed to be installed flush with finish tile do not require escutcheons.
 - .4 Ground all metal components as per Electrical Drawings and Specifications.
 - .5 Fully install all railings into compression anchors.

3.5 CLEAN UP

- .1 Promptly, as the work proceeds, and on completion of the work, remove all debris and excess material from the site. During the progress of the work, keep the premises free from any unnecessary accumulation of tools, equipment, surplus material, and debris. At the conclusion of the work, leave the premises neat and clean.

END OF SECTION

1. General

1.1 INTENT

.1 This Section specifies general requirements for all painting and finishing work to be performed on site.

.2 Read this Section in conjunction with the following Sections containing more detailed requirements for site painting and finishing:

.1 Interior Repainting and Refinishing Schedule Section 09 91 25

1.2 REFERENCE DOCUMENTS

.1 The painting and finishing specifications for new, not previously painted or finished, substrates, are based on and refer to the "Architectural Painting Specification Manual", 2001 edition, including the latest edition of the "Approved Products Lists", published by the Master Painters Institute (MPI).

.2 The painting and finishing specifications for previously painted or finished substrates are based on and refer to the "Maintenance Repainting Manual", 2001 edition, including the latest edition of the "Approved Products Lists", published by the Master Painters Institute (MPI).

.3 The reference documents are available from:

Master Painters Institute (HQ)

4090 Graveley St.
Burnaby, BC.
V5C 3T6
tel: (888)674-8937 toll free
fax: (888)211-8708 toll free
www.paintinfo.com

or

Alberta Painting Contractors Association
2725 - 12th Street N.E.
Calgary, AB
T2E 7J2
Tel: (403)250-0903
Fax: (403)291-9562

1.3 PRODUCT DATA

.1 Comply with requirements of Division 01.

.2 Prior to commencement of Work of this Section, submit list of products proposed for use corresponding to the specified finishing systems. Include manufacturer's name, manufacturer's product name, manufacturer's product code, and MPI number of each product.

- .3 Products identified in submitted products list and approved by Architect shall be used in the applications for which they are scheduled and shall not be changed without Architect's consent.

1.4 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver materials in sealed original labeled containers bearing manufacturer's name, type of material, brand name, colour designation, and where applicable, instructions for mixing and reducing.
- .2 Store paint and other materials in a single heated and well-ventilated area with a minimum ambient temperature of 7°C.
- .3 Take precautionary measures to prevent fire hazards or spontaneous combustion.

1.5 SITE CONDITIONS

- .1 Interior:
 - .1 Temperature: Maintain temperature at minimum 10°C for at least 24 hours before and during application and until coatings have cured.
 - .2 Ventilation: Adequately ventilate areas where coatings are being applied and maintain a reasonably dust free atmosphere.
 - .3 Lighting: Maintain bright and uniform levels of lighting in areas where coatings are being applied.

1.6 COORDINATION

- .1 Ensure that site applied paints and finishes are compatible with primers or other finishes applied in the shop or factory.
- .2 Notify Architect of any incompatibilities.

1.7 STANDARD OF ACCEPTANCE

- .1 The following requirements establish the standard of acceptance for the Work, when viewed using the final lighting source.
 - .1 Vertical surfaces: No defects visible from a distance of 1 metre at 90 degrees to surface.
 - .2 Horizontal surfaces: No defects visible from a distance of 1 metre at 45 degrees to surface.
 - .3 Final coat shall exhibit uniformity of sheen across full surface area.
- .2 Defects include brush marks, streaks, runs, laps, drips, heavy stippling, pile up of paints, roller tracking, inadequate hiding of substrate, skipped or missed areas, and foreign

materials in paint.

1.8 MAINTENANCE MATERIALS

- .1 Leave on premises not less than 4 litres of new material of each colour and finish sheen used.
- .2 Provide maintenance materials in new containers, full, tightly sealed, and clearly labelled. Remnants of used materials are not acceptable.

2. Products

2.1 MATERIALS

- .1 Paint and Other Finishing Materials:
 - .1 Refer to Schedule Sections for required finishing systems.
 - .2 Use only MPI approved products from the MPI Approved Product Lists corresponding to the specified finishing systems.
 - .3 Where the MPI Approved Products List identifies products for a given product type that are environmentally friendly, designated by E1, E2, or E3, select products as follows:
 - .1 Use a product with either an E2 or E3 designation, where available.
 - .2 Where a product with an E2 or E3 designation is not available, use a product with an E1 designation.
- .2 Thinners: Odorless paint thinner, pure and clean, with no deleterious material.
- .3 Patching compounds: Spackling compound or oil base putty for substrates receiving a paint finish. Oil base putty, coloured to match finish, for substrates receiving a transparent finish.

2.2 MIXING

- .1 Except as otherwise specified, paint shall be ready mixed. Re-mix prior to application to ensure colour and gloss uniformity. Materials in paste or powder form, or to be field-catalyzed, shall be field mixed in accordance with manufacturer's directions. Perform colour tinting operations prior to delivery to site.

.2 Thinning of materials to extent permitted by paint manufacturer will be permitted only where specified herein or upon Architect's approval. Do not use solvent for thinning.

.3 Strain materials thoroughly prior to application.

2.3 COLOURS

.1 Colour Schedule: Included in Contract Documents.

2.4 GLOSS LEVELS

.1 Specified gloss levels are based on the MPI standard, which is as follows:

- .1 Level G1 – Matte or Flat: gloss rating of 0 to 5 units at 60 degrees and sheen rating of a maximum of 10 units at 85 degrees.
- .2 Level G2 - Velvet: gloss rating of 0 to 10 units at 60 degrees and a sheen rating of 10 to 35 units at 85 degrees.
- .3 Level G3 - Eggshell: gloss rating of 10 to 25 units at 60 degrees and a sheen rating of 10 to 35 units at 85 degrees.
- .4 Level G4 - Satin: gloss rating of 20 to 35 units at 60 degrees and a sheen rating of 35 units minimum at 85 degrees.
- .5 Level G5 - Semi-gloss: gloss rating of 35 to 70 units at 60 degrees.
- .6 Level G6 - Gloss: gloss rating of 70 to 85 units at 60 degrees.
- .7 Level G7 – High-gloss: gloss rating of more than 85 units at 60 degrees.

.2 Gloss levels for individual finishing systems are specified in Section 09 91 25 Interior Repainting and Refinishing Schedule.

.3 Where gloss level is not specified, confirm required gloss level with Architect prior to proceeding with finish coats.

3. Execution

3.1 VERIFICATION OF CONDITIONS

.1 Ensure all dust generating activities have been terminated and dust removed.

.2 Prior to commencement of painting and finishing work, thoroughly examine substrates scheduled to receive coatings.

.3 Do not apply coatings to substrates whose condition will adversely affect execution, permanence, or quality of work and which cannot be put into an acceptable condition through preparatory work specified herein.

.4 Verify compatibility of any previously applied coatings with specified coatings. Notify Architect of any incompatibilities.

3.2 PROTECTION OF EXISTING SURFACES

- .1 Protect adjacent surfaces from spray, splashing, and droppings.
- .2 Remove electrical plates, surface hardware, fittings, and fastenings prior to painting and finishing operations. Carefully store and replace these items on completion of work in each area.
- .3 Keep sprinkler heads and smoke detectors free of paint. Replace those that do receive paint.

3.3 CONDITION OF SUBSTRATES

- .1 Substrates shall be sound, non-dusting, and free of grease, oil, dirt, and other matter detrimental to adhesion and appearance of coatings.
- .2 Temperature: minimum 8°C.
- .3 Test moisture content using electronic moisture meter. Maximum moisture content as follows:
 - .1 Concrete: 12%
 - .2 Concrete block and brick: 12%
- .4 Alkalinity: test cementitious substrates for alkalinity using litmus paper test. If greater than 7, refer to manufacturer's requirements.

3.4 PREPARATION OF PREVIOUSLY COATED SUBSTRATES

- .1 Thoroughly inspect existing conditions to verify the degree of surface deterioration (DSD) of each previously coated substrate required to be repainted or refinished. Degrees of surface deterioration shall be as defined in the "Maintenance Repainting Manual" (MR Manual), Chapter 2 and 3, Section 3 - Surface Preparation.
- .2 Prepare substrates using surface preparation procedures in Chapter 6 Section 2, including cleaning and removal systems, specified for the degree of surface deterioration.

3.5 APPLICATION OF COATINGS, GENERALLY

- .1 Applied and cured coatings shall be uniform in thickness, sheen, colour, and texture and be free of defects detrimental to appearance and performance. Edges of paint adjoining other materials shall be clean and sharp with no overlapping.

- .2 Use rollers that will produce the least possible stipple effect; maximum 10 mm pile for smooth substrates. Heavier pile rollers may be permitted for use on rough substrates, subject to Architect's approval.
- .3 Back roll airless spray application.
- .4 Use a single manufacturer's products for all coats required for each finish system.
- .5 Vary slightly the colour of successive coats to visibly differentiate between coats.
- .6 Allow each coat to dry hard before succeeding coats are applied with a minimum of 24 hours between coats, except where manufacturer's instructions state otherwise.

3.6 FINISHING OF PREVIOUSLY COATED SUBSTRATES

- .1 Repaint or refinish all work and substrates indicated as requiring repainting or refinishing in Schedules, Drawings, or Specifications.

3.7 PATCHING OF COMPLETED WORK

- .1 Repair, touch-up, and refinish damaged finishes and finishes unsatisfactory to Architect.
- .2 Refinish entire wall or area where deemed necessary by Architect.

3.8 CLEANING

- .1 Place cotton waste, cloths, and other material that may constitute a fire hazard in metal containers and remove from site daily.

END OF SECTION

1. General

1.1 INTENT

- .1 Read this Section in conjunction with Section 09 91 05 - Painting and Finishing General Requirements.

2. Products

- .1 (Not used).

3. Execution

3.1 INTERIOR PAINTING AND FINISHING SCHEDULE

- .1 The following systems with codes numbers, finishing system description, gloss levels, coats and product descriptions are derived from the MPI Maintenance Repainting Manual and the MPI Approved Products List.
- .2 Prime substrate, referencing the 1st coat, for the Degree of Surface Deterioration codes as recommended by the MPI Maintenance Repainting Manual and as follows:
 - .1 DSD 1: Touch-up.
 - .2 DSD 2: Spot prime.
 - .3 DSD 3: Full prime coat.
- .3 Where the finishing system requires a different product for first coat, DSD 1, 2, or 3, the MPI product numbers will be noted in the finishing system description.

Code Number	Finishing System	Coat	Product Description
RIN 4.2 – CONCRETE MASONRY UNITS (block and brick)			
RIN 4.2L	Institutional Low Odor / VOC Gloss level G4	1 st 2 nd 3 rd	DSD 2 Institutional Low Odor / VOC Institutional Low Odor / VOC

END OF SECTION

1. General

1.1 SECTION INCLUDES

- .1 Supply of Handrails for installation by 09 30 13 13 Pool Ceramic Tile.

1.2 SUBMITTALS

- .1 Submit shop drawings or catalogue illustrations in accordance with Division 01.
- .2 When requested, submit samples in accordance with Division 01.
- .3 Provide care and maintenance instructions for routine cleaning and maintenance, including products or methods that may be detrimental to the products or pool systems.

1.3 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver products in manufacturer's original, unopened, undamaged containers with identifications labels intact.
- .2 Store products indoors in secure location, protected from damage.
- .3 Handle products in accordance with manufacturer's recommendations.

1.4 WARRANTY

- .1 Provide manufacturer's standard warranty.

2. Products

2.1 GENERAL

- .1 Provide the specified equipment along with any necessary fittings, anchors, and connectors as required and not provided by the manufacturer. Although the required dimensions are shown, it is the installers responsibility to confirm actual site-built conditions.

2.2 MATERIALS

- .1 Rails and Stanchions:
 - .1 All rail products specified in this section shall be 316L stainless steel.
 - .2 All rail goods with a grip surface (handrails, grab rails) shall be 38 mm O.D., wall thickness 3 mm.
 - .3 Surface of rails shall be polished to a minimum #6 (500 grit) mirror finish and passivated according to ASTM A967.

- .4 Final coating of steel shall be per manufacturer's standard treatment procedure. All welds shall be finished, polished, and passivated to blend and match rail finish.
- .2 Wedge Anchors:
 - .1 Rail anchors shall be corrosion resistant, sized to accept the rail dimensions specified, and a minimum of 102 mm deep. For anchors greater than 102 mm deep, contractor shall verify adequate concrete thickness at the anchor points.
 - .2 Stanchion sockets shall be corrosion resistant, minimum 152 mm deep, and designed to accept the specified stanchion O.D.
- .3 Escutcheon Plates:
 - .1 Provide escutcheon plates for each anchor location, sized to match rail diameter.
 - .2 Shall be rail manufacturer's round, stamped, 316L stainless steel escutcheon.

3. Execution

3.1 VERIFICATION OF CONDITIONS

- .1 Verify installation conditions previously established under other sections are acceptable for product installation in accordance with manufacturer's instructions.
- .2 Proceeding with installation implies installer's acceptance of substrate and conditions.

3.2 INSTALLATION

- .1 Install rail goods in accordance with manufacturer's instructions and recommendations, and in accordance with industry standards.
- .2 Install rail goods true to line and level with required heights and clearances.
- .3 Install rail goods securely with no movement under normal use.
- .4 Ground all metal components as per Electrical Drawings.

3.3 CLEANING AND ADJUSTMENT

- .1 Clean installed products and remove protective materials, in accordance with manufacturer's instructions, just prior to inspection for interim acceptance.
- .2 Repair scratches and other damage. Replace components where repairs were made but are still visible to the unaided eye from a distance of 1000 mm.

END OF SECTION