

1 GENERAL

1.01 DESCRIPTION

.1 Description:

.1 Work includes patch and repair of all disturbed finish surfaces in the existing Canadian Coast Guard College D'Iberville Building Pool, resulting from the demolition, cutting, patching, and renovation work as shown, specified, or implied and summarized, but not restricted to the following:

- .1 Porcelain-tile repair.
- .2 Paint finishes repair.
- .3 Ceiling tile repair.
- .4 Baseboard repair.
- .5 Clear finish repair.
- .6 Concrete pool surfaces repair.

.2 Job Conditions

- .1 Protect and minimize disturbance to existing interior finishes that are to remain.
- .2 Report to Departmental Representative unforeseen conditions which show a deteriorated state, and await instructions to proceed.

2 PRODUCTS

2.01 MATERIALS

.1 Materials required to carry out the repair of surfaces disturbed during the course of construction. Materials to match and be compatible with adjacent surfaces.

.2 The following are possible materials which may be required, but not restricted to:

- .1 Porcelain tile.
- .2 Paint.
- .3 Polyurethane.

3 EXECUTION

3.01 INSTALLATION

- .1 Remove all loose and/or unstable materials, and cut back to smooth edge to allow for a match of old and new surfaces.
- .2 Obtain Departmental Representative's approval of colour and material matches, before installation.
- .3 Repaint existing wall surface(s) where disturbed, to obtain consistent colour and sheen over entire surface.

END OF SECTION

1 GENERAL

1.01 RELATED REQUIREMENTS

- .1 Section 07 92 00 – Joint Sealants.
- .2 Section 13 11 46 – Swimming Pool Accessories.
- .3 Division 26 – Electrical.

1.02 REFERENCE STANDARDS

- .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 A118.3-92, 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 C 144-04, Specification for Aggregate for Masonry Mortar.
 - .2 ASTM C 207-06, Specification for Hydrated Lime for Masonry Purposes.
 - .3 ASTM C 979-05, Specification for Pigments for Integrally Coloured Concrete.
- .3 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-51.34-M86(R1988), Vapour Barrier, Polyethylene Sheet for Use in Building Construction.
 - .2 CGSB 71-GP-22M-78(AMEND.), 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 Canadian Standards Association (CSA International)
 - .1 CAN/CSA-A3000-03(R2006), Cementitious Materials Compendium (Consists of A3001, A3002, A3003, A3004 and A3005).
- .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.

1.03 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 mm x 300 mm sample panels of each colour, texture, size, and pattern of tile.
 - .2 Floor tile: submit duplicate, 300 mm x 300 mm sample panels of each colour, texture, size, and pattern of tile.
 - .3 Trim shapes, pool edge, printed marker tile, of each type, colour, and size.
 - .4 Adhere tile samples to 11 mm thick plywood and grout joints to represent project installation.

1.04 QUALITY ASSURANCE

- .1 Quality Assurance Submittals:
- .1 Manufacturer's Instructions: manufacturer's installation instructions.
 - .2 Manufacturer's Field Reports: manufacturer's field reports specified.
- .2 Mock-Up(s):
- .1 Construct mock-ups in accordance with Section 01 45 00 – Quality Control.
 - .2 Construct a 2-metre-long section of the pool-edge detail, including grip-edge tiles, pool deck, and wall tiles.
 - .3 Install one end-wall target and one Pool lane leader line tile pattern.
 - .4 Install one inside corner area of pool, showing all special trim pieces as required.
 - .5 Mockups will be reviewed by the Departmental Representative during the next scheduled site visit. Mock-ups must be reviewed and approved before proceeding with the remainder of work.
 - .6 When accepted, mock-ups will demonstrate the minimum standard for this work. Mock-ups may remain as part of finished work.

1.05 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 Deliver to site, each carton/container, sealed and labeled with manufacturer's name, catalogue number or brand name, colour, and reference standard specification number, if applicable.
 - .3 Store only acceptable project materials at the site, and in an area specifically set aside for this purpose, that is locked, ventilated, maintained at a temperature of over 4° Celsius, and protected from direct rays of sun.

- .4 Ensure that health and fire regulations are complied with in storage area. Provide carbon dioxide fire extinguishers of 9 kg. minimum capacity in each storage area, while materials are contained within.
- .5 It is the responsibility of this Contractor to transport the materials of this Contract from the storage area to the point of installation.
- .2 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.

1.06 AMBIENT CONDITIONS

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

1.07 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 of same production run as installed material.

2 PRODUCTS

2.01 POOL TILE

- .1 Type PLT-01 (colour notation) - Anti-slip, extruded porcelain tile, purpose-made for pool decks and pool floors (shallow sections):
 - .1 Slip resistance (bare-foot), DIN 51097: C rating.
 - .2 Material properties:
 - .1 Dimension tolerance per ISO 10545-2: <1%.
 - .2 Water absorption per ISO 10545-3: <0.5%.
 - .3 Breaking strength per ISO 10545-4: 36 N/mm².
 - .4 Resistance to deep abrasion per ISO 10545-6: <175 mm³.
 - .5 Linear thermal expansion coefficient per ISO 10545-8: $5.8 \times 10^{-6} \text{K}^{-1}$.
 - .6 Scratch hardness of surface per UNE 67101:85: 8.
 - .7 Resistance to stains per ISO 10545-14: Class 5.
 - .3 Format: 119 mm x 119 mm x 14 mm thick.
 - .4 Texture: PLT-01: Natural, unglazed (typical application).
 - .5 Colour notation: Aciker Grey.
- .2 Type PLT-02 (colour notation) - Glazed, extruded porcelain tile, purpose-made for pool decks, wall base, and water polo line markings:
 - .1 Slip resistance (bare-foot), DIN 51097: C rating.
 - .2 Material properties:
 - .1 Dimension tolerance per ISO 10545-2: <1%.

- .2 Water absorption per ISO 10545-3: <0.5%.
 - .3 Breaking strength per ISO 10545-4: 36 N/mm².
 - .4 Resistance to deep abrasion per ISO 10545-6: <175 mm³.
 - .5 Linear thermal expansion coefficient per ISO 10545-8: $5.8 \times 10^{-6} \times K_{-1}$.
 - .6 Scratch hardness of surface per UNE 67101:85: 8.
 - .7 Resistance to stains per ISO 10545-14: Class 5.
 - .3 Format: 119 mm x 244 mm x 8.5 mm thick.
 - .4 Texture: PLT-02: Natural, glazed.
 - .5 Colour notation: (a) Dark Blue, (b) Aciker Grey, (c) Pale Blue, (d) Orange.
- .3 Type PLT-03 (colour notation) - Anti-slip, extruded porcelain tile, purpose-made for pool-deck edge (two rows):
- .1 Slip resistance (bare-foot), DIN 51097: C rating.
 - .2 Material properties:
 - .1 Dimension tolerance per ISA 10545-2: <1%.
 - .2 Water absorption per ISO 10545-3: <0.5%.
 - .3 Breaking strength per ISO 10545-4: 36 N/mm².
 - .4 Resistance to deep abrasion per ISO 10545-6: <175 mm³.
 - .5 Linear thermal expansion coefficient per ISO 10545-8: $5.8 \times 10^{-6} \times K_{-1}$.
 - .6 Scratch hardness of surface per UNE 67101:85: 8.
 - .7 Resistance to stains per ISO 10545-14: Class 5.
 - .3 Format: 119 mm x 244 mm x 14 mm thick.
 - .4 Texture: PLT-03: Grooved.
 - .5 Colour notation: Dark Blue.
- .4 Type PLT-04 (colour notation) - Anti-slip, extruded porcelain tile, purpose-made for pool-tank ends:
- .1 Slip resistance (bare-foot), DIN 51097: C rating.
 - .2 Material properties:
 - .1 Dimension tolerance per ISA 10545-2: <1%.
 - .2 Water absorption per ISO 10545-3: <0.5%.
 - .3 Breaking strength per ISO 10545-4: 36 N/mm².
 - .4 Resistance to deep abrasion per ISO 10545-6: <175 mm³.
 - .5 Linear thermal expansion coefficient per ISO 10545-8: $5.8 \times 10^{-6} \times K_{-1}$.
 - .6 Scratch hardness of surface per UNE 67101:85: 8.
 - .7 Resistance to stains per ISO 10545-14: Class 5.
 - .3 Format: 119 mm x 244 mm x 14 mm thick.
 - .4 Texture: PLT-04: Raised cells/diamond grid (ramps or otherwise indicated on drawings).
 - .5 Colour notations: (a) Off-white/Ivory, (b) Red.
- .5 Type PLT-05 (colour notation) – Glazed, extruded porcelain tile, purpose-made for pool walls and floors:
- .1 Material properties:
 - .1 Dimension tolerance per ISA 10545-2: <1%.
 - .2 Water absorption per ISO 10545-3: <0.5%.
 - .3 Breaking strength per ISO 10545-4: 36 N/mm².
 - .4 Resistance to deep abrasion per ISO 10545-6: <175 mm³.
 - .5 Linear thermal expansion coefficient per ISO 10545-8: $5.8 \times 10^{-6} \times K_{-1}$.
 - .6 Scratch hardness of surface per UNE 67101:85: 8.
 - .7 Resistance to stains per ISO 10545-14: Class 5.

- .2 Format: 119 mm x 244 mm x 14 mm thick.
 - .3 Texture: PLT-05: Glazed.
 - .4 Colour notation: (a) Off-White/Ivory, (b) Red.
- .6 Type PLT-06 (colour notation) - Anti-slip, extruded porcelain tile, purpose-made for edge of pool tank:
- .1 Slip resistance (bare-foot), DIN 51097: C rating.
 - .2 Material properties:
 - .1 Dimension tolerance per ISA 10545-2: <1%.
 - .2 Water absorption per ISO 10545-3: <0.5%.
 - .3 Breaking strength per ISO 10545-4: 36 N/mm².
 - .4 Resistance to deep abrasion per ISO 10545-6: <175 mm³.
 - .5 Linear thermal expansion coefficient per ISO 10545-8: $5.8 \times 10^{-6} \times K_{-1}$.
 - .6 Scratch hardness of surface per UNE 67101:85: 8.
 - .7 Resistance to stains per ISO 10545-14: Class 5.
 - .3 Format: 119 mm x 244 mm x 35 mm (60 mm at finger grip) thick.
 - .4 Texture: PLT-06: Natural, unglazed, grooved.
 - .5 Colour notation: Dark Blue.
 - .6 Special shapes:
 - .1 Zurich-style grip edge: 119 mm x 244 mm x 35 mm with a 25 mm high half-cylinder grip on one edge.
 - .1 Include inside and outside corner pieces as required for a continuous Zurich edge around pools.
- .7 Type PLT-07 (colour notation) – Printed anti-slip, extruded porcelain tile, purpose-made for pool deck and pool-tank walls:
- .1 Slip resistance (bare-foot), DIN 51097: C rating.
 - .2 Material properties:
 - .1 Dimension tolerance per ISA 10545-2: <1%.
 - .2 Water absorption per ISO 10545-3: <0.5%.
 - .3 Breaking strength per ISO 10545-4: 36 N/mm².
 - .4 Resistance to deep abrasion per ISO 10545-6: <175 mm³.
 - .5 Linear thermal expansion coefficient per ISO 10545-8: $5.8 \times 10^{-6} \times K_{-1}$.
 - .6 Scratch hardness of surface per UNE 67101:85: 8.
 - .7 Resistance to stains per ISO 10545-14: Class 5.
 - .3 Format: 119 mm x 244 mm x 14 mm thick (Vertical).
 - .4 Texture: PLT-07: Natural, unglazed (typical application).
 - .5 Colour notation: (a) Aciker Grey with Dark Blue text at Pool Deck, (b) Off-White/Ivory with Dark Blue text at Pool-Tank Walls, (c) Black circular mark to show water clarity, as indicated on drawings.
- .8 Type PLT-08 (colour notation) – Printed anti-slip, extruded porcelain tile, purpose-made for pool deck and pool-tank walls:
- .1 Slip resistance (bare-foot), DIN 51097: C rating.
 - .2 Material properties:
 - .1 Dimension tolerance per ISA 10545-2: <1%.
 - .2 Water absorption per ISO 10545-3: <0.5%.
 - .3 Breaking strength per ISO 10545-4: 36 N/mm².
 - .4 Resistance to deep abrasion per ISO 10545-6: <175 mm³.
 - .5 Linear thermal expansion coefficient per ISO 10545-8: $5.8 \times 10^{-6} \times K_{-1}$.
 - .6 Scratch hardness of surface per UNE 67101:85: 8.

- .7 Resistance to stains per ISO 10545-14: Class 5.
- .3 Format: 119 mm x 244 mm x 14 mm thick (horizontal).
- .4 Texture: PLT-08: Natural, unglazed (typical application).
- .5 Colour notation: (a) Aciker Grey with Dark Blue text at Pool Deck, (b) Off-White/Ivory with Dark Blue text at Pool-Tank Walls.

2.02 MORTAR AND ADHESIVE MATERIALS

- .1 Cement: To CSA-A5, Type 10.
- .2 Sand: To ASTM C 144, passing 16 mesh.
- .3 Hydrated lime: To ASTM C 207, Type N.
- .4 Latex additive: Formulated for use in cement mortar and thin set bond coat.
- .5 Water: Potable and free of minerals and chemicals which are detrimental to mortar and grout mixes.
- .6 Adhesives:
 - .1 Maximum VOC limit 65 g/L to SCAQMD Rule 1168.

2.03 MORTAR

- .1 All primers, mortar, waterproofing compounds and grout must be compatible, preferably from the same manufacturer. Only acrylic modified mortars are to be considered for this project.
- .2 Thick-Set Mortar (Levelling Compound):
 - .1 One-part, cement-based, highly sag-resistant, polymer-fortified modeling compound suitable for single-application thicknesses up to 50 mm.
 - .1 Floor slopes in wet areas, including minimum and maximum thicknesses, are noted on drawings. Refer to drawing legends for further information.
 - .2 Filler for control joints in concrete pool floor slabs under waterproofing layer. (Note: Align tile control joints on top of waterproofing layer with concrete control joints.)
 - .3 Primers: As recommended by manufacturer or as indicated below.
- .3 Thin-Set Mortar for Walls only:
 - .1 One-part, cement-based, sag-resistant, acrylic polymer-fortified flexible then-set mortar with extended coverage, excellent bonding strength and easy handling as per EN 12 002>5 mm. 38% recycled glass granulate self-curing mortar.
- .4 Full-Transfer Thin-Set Mortar for all floors, pool deck, and pool tank floor:
 - .1 Flexible, self-curing, cement-based thin-set and medium-bed mortar with acrylic polymer additive for interior and exterior applications, as per EN 12 004 C2 FE-S1. 22% recycled glass granulate.
 - .1 Specially formulated to provide full mortar transfer to avoid air entrapment between mortar and tile

2.04 WATERPROOFING MEMBRANES

- .1 Cementitious Waterproofing Membrane: For all applications.
 - .1 Fibreless, one-component, self-drying, cement-based, flexible waterproofing and

- anti-fracture membrane to provide a flexible seal on substrate construction against accumulating surface and pressure water $\leq 300\text{kPa}$ (3.0 Bar).
- .1 Suitable for continuously submerged conditions.
- .2 Density: 1.2 kg/L (mixed material).
- .2 Suitable for use over thick-set mortar specified above.
- .3 Prime substrate as recommended by manufacturer.
- .4 Include seam and corner reinforcing as recommended by manufacturer at control joints, junctions between adjacent surfaces (inside/outside corners) or any and all gaps or voids that the membrane cannot adequately span.
- .5 Membrane application and thickness:
 - .1 Pool tank interior (walls and floor).
 - .1 Minimum 3 layers for a total combined dry membrane thickness of 5 mm.
 - .2 Pool deck shower room (walls and floors):
 - .1 Minimum 2 layers for a total combined dry membrane thickness of 3 mm.
- .2 Pool deck waterproofing and uncoupling membrane; for continuous waterproofing. Flash band up perimeter walls under the base
 - .1 Description: 3 mm thick, orange, high-density polyethylene membrane with a grid structure of 12 mm x 12 mm square cavities, each cut back in a dovetail configuration, and a polypropylene anchoring fleece laminated to its underside. Conforms to definition for uncoupling membranes in the Tile Council of North America Handbook for Ceramic Tile Installation; and meets or exceeds the requirements of the "American national standard specifications for load-bearing, bonded, waterproof membranes for thin-set ceramic tile and dimension stone installation A118.10," and is listed by cUPC®, and is evaluated by ICC-ES (See Report No. ESR-2467 and PMG 1204).
 - .2 Waterproofing seaming membrane: Provide with seaming band and inside/outside corners made from 4 mil. thick, orange polyethylene membrane, with polypropylene fleece laminated on both sides.

2.05 GROUT

- .1 Typical: High-strength alumina cement-based acrylic grout suitable for general interior and underwater applications, and providing superior resistance against microorganisms and mould.
 - .1 Efflorescence free.
 - .2 Abrasion resistance to CG 2 WA nach, DIN EN 13888.
 - .3 Chemical resistance:
 - .1 Formic acid $\leq 3\%$: conditionally resistant.
 - .2 Acetic acid $\leq 2\%$: resistant, $\leq 5\%$ conditionally resistant.
 - .3 Lactic acid $\leq 5\%$: conditionally resistant.
 - .4 Hydrochloric acid $\leq 2\%$: conditionally resistant.
 - .5 Tartaric acid $\leq 5\%$: conditionally resistant.
 - .6 Citric acid $\leq 2\%$: resistant, $\leq 5\%$ conditionally resistant.
 - .7 Phosphoric acid $\leq 2\%$: resistant, $\leq 5\%$ conditionally resistant, alkaline solution $\leq 10\%$: resistant.
 - .8 Ammonia $\leq 25\%$: resistant.
 - .9 Calcium hydroxide $\leq 10\%$: resistant.
 - .10 Solvents: acetone, ethanol, isopropanol-xylol: resistant.
- .4 Joint width:
 - .1 Floor tile and pool tile: 6 mm.

- .2 Ceramic wall tile: 3 mm.
- .5 Colour: Silver Grey.

2.06 PRIMERS

- .1 Prime substrates as recommended by manufacturer.
- .2 Solvent-free, dispersion primer, designed to bond and adhere to absorbent or non-absorbent substrates before leveling work or tiling.
 - .1 Density: 1.06 g/cm³.

2.07 ACCESSORIES

- .1 Cove base profile for Tile Type FT-01.
 - .1 Rigid PVC cove-shaped profile for floor/wall intersections with anchoring legs installed under tile layer.
 - .2 Radius: 18 mm.
 - .3 Include purpose-made inside and outside corner pieces.
 - .4 Colour: Light (Classic) Grey.
- .2 Movement joint:
 - .1 Surface joint with rigid PVC anchoring legs to protect tile edges, and a 5 mm side soft CPE movement zone that separates individual fields in the tile and forms the visible surface.
 - .2 Colour: Light (Classic) Grey.
- .3 Edge protection for Tile Types WT-01 and WT-02:
 - .1 Rigid PVC finishing edge profile for outside corners and terminations.
 - .2 Visible width 3 mm, depth to suit application.
 - .3 Colour: Light (Classic) Grey.
- .4 Flooring transitions:
 - .1 Aluminum wedge-shaped transition strip designed to protect tile edges and provide a smooth transition between tile and adjacent, lower floor coverings.
 - .2 Height: Difference between floor coverings x recommended length for compliance with local accessibility regulations.
 - .3 Colour: Satin Anodized.
- .5 Divider strips – control joints in pool deck and tank:
 - .1 Field tile control joint: Purpose-made, rigid PVC movement joint with trapezoid-perforated anchoring legs and soft-chlorinated-polyethylene (CPE) movement zone designed to accommodate movement in field tile.
 - .2 Inside corner control joint – pool tank: Purpose-made, rigid PVC movement joint with trapezoid-perforated anchoring legs and soft-chlorinated-polyethylene (CPE) movement zone designed to accommodate movement in inside corner tile joints.
 - .3 Floor to wall base at pool deck: Purpose-made, rigid PVC movement joint with trapezoid-perforated anchoring legs and soft-chlorinated-polyethylene (CPE) movement zone to accommodate movement in inside corner tile joints.
- .6 Pool deck floor-drain adaptor kits: Purpose-made, retrofit floor drain, consisting of a stainless-steel adaptor ring, PVC adaptor flange, and 100 mm x 100 mm stainless-steel drain

grate.

.7 Sealant:

- .1 Refer to Section 07 92 00 – Joint Sealants for general-use products.
- .2 For use in pool and on pool deck, and in shower areas:
 - .1 Neutral-curing, one-component silicone sealant with anti-fungal treatments, specifically designed for use in swimming pools and shower areas.
 - .2 Material properties:
 - .1 Viscosity at 23° Celsius: pasty, stable.
 - .2 Density at 23° Celsius as per ISO 1183-1: 1.0 g/cm³.
 - .3 Shore A Hardness as per ISO 868: ~30.
 - .4 Permissible movement capability: 20%.
 - .5 Stress expansion modulus at 100% as per DIN 53 504, S3A: 0.6 N/mm².
 - .6 Tensile expansion as per ISO 37, S3A: ~350%.
 - .7 Tensile strength as per ISO 37 S3A: ~1.5 N/mm².
 - .8 Temperature resistance range: -40° Celsius to + 180° Celsius.
 - .9 Shrinkage of volume as per ISO 10563: <10%.
 - .10 Maximum VOC limit 250 g/L to SCAQMD Rule 1168.
 - .3 Colour matched to grout (as near as possible).

2.08 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.
- .3 Cleaner: To meet most current specified requirements of #1000 Series of Terrazzo, Tile and Marble Association of Canada, and as recommended by the tile manufacturer.

3 EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

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

3.02 INSTALLATION

- .1 Do tile work in accordance with TTMAC Tile Installation Manual 2006/2007, except where specified otherwise.
- .2 Flood Tests:
 - .1 Demolition Stage Flood Test: Proceed with installation of new waterproofing membrane and pool tank and walls after the Demolition Stage Flood Test and subsequent repairs have shown the pool tank to be watertight. Reference Specifications Section 01 11 00 – Summary of Work.
 - .2 Renovation Stage Flood Test: Proceed with installation of new porcelain tile on pool tank and walls after the Renovation Stage Flood Test and subsequent repairs have shown the pool tank to be watertight. Reference Specifications Section 01 11 00 – Summary of

Work.

- .3 Apply primers, mortar, waterproofing membrane, tile and grout to clean and sound surfaces.
- .4 Install all products specified in this section as per the manufacturer's recommendations for the specific application. Back butter all pool and deck tile unless otherwise noted.
- .5 Install seam-reinforcing material in the waterproofing system wherever there is a joint or gap or a change of direction (i.e. horizontal to vertical) of the substrate.
- .6 Fit tile around obstructions, corners, fixtures, drains, and any other built-in or fixed objects. Maintain uniform joint appearance. Cut edges smooth and even. Do not split tiles.
- .7 Maximum surface tolerance 1:800.
- .8 Make joints between tile uniform, plumb, straight, true, even, and flush with adjacent tile. Align patterns. Joint width as specified above.
- .9 Lay out tiles so perimeter tiles are a minimum of half a tile in width.
- .10 Sound tiles after setting, and replace hollow-sounding units to obtain full bond.
- .11 Install all accessories specified above where required in tile systems.
 - .1 Install cove base profiles for flooring types as indicated.
 - .2 Install transition strips at junction of tile flooring and dissimilar materials.
 - .3 Install exposed-edge protection for all tile.
 - .4 Install movement joints in tile aligned with movement joints in substrate.
 - .1 Ensure that movement joints are located at a maximum spacing of 3700 mm in any direction.
 - .2 Add movement joints in addition to those aligned with substrate movement joints to achieve conformance with the maximum spacing.
 - .5 Install silicone sealant around all penetrations, including pool accessories and handrails.
 - .6 Install silicone sealant at all inside corner joins to allow for movement between adjacent, intersecting wall surfaces.
- .12 Allow minimum twenty-four (24) hours after installation of tiles, before grouting.

3.03 PROTECTION OF FINISHED WORK

- .1 Prohibit traffic on newly laid floors by barricading areas for at least forty-eight (48) hours following installation.
- .2 Once completed, protect floors from damage due to construction traffic until Substantial Performance deficiency reviews, or where directed by Departmental Representative.
 - .1 Do not allow foot traffic over unprotected non-slip tiles.
- .3 In areas where flammable adhesives are used, ensure that adequate ventilation and spark-proof electrical equipment is provided, and smoking is prohibited. Store materials to prevent spontaneous combustion.
- .4 After completion of flooring installation, install floor-protection paper in areas where finishing work repairs and installation of equipment and foot traffic will occur. Lay joints of materials by 150 mm, and seal with non-asphaltic tape.

- .5 Report any unsatisfactory conditions, in writing, to the Departmental Representative.

3.04 FLOOR SEALER AND PROTECTIVE COATING

- .1 Apply in accordance with manufacturer's instructions.

3.05 FIELD QUALITY CONTROL

- .1 Manufacturer's Field Services:
 - .1 Provide manufacturer's field services consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.

3.06 CLEANING

- .1 Upon completion and final cure of grouting, thoroughly clean all tile surfaces as per manufacturer's instructions before requesting a final deficiency review by Departmental Representative.
- .2 Tile surfaces to be free from grout haze and mortar or grout residue.
- .3 Proceed in accordance with Section 01 74 11 – Cleaning.

3.07 COMMISSIONING

- .1 Train user staff in the care and cleaning of tile surfaces.
- .2 Train user staff in the repair and/or replacement of damaged tiles.

END OF SECTION