

PART 1 - GENERAL

- 1.1 REFERENCES
- .1 American Concrete Institute (ACI)
 - .1 ACI 503R-93(R1998), Use of Epoxy Compounds with Concrete.
 - .2 American Society for Testing and Materials International (ASTM)
 - .1 ASTM D 412-06a, Standard Test Method for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers-Tension.
 - .2 ASTM D 635-06, Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.
 - .3 ASTM D 638-03, Standard Test Method for Tensile Properties of Plastics.
 - .4 ASTM D 695-02a, Standard Test Method for Compressive Properties of Rigid Plastics.
 - .5 ASTM D 696-03, Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between -30 degrees C and 30 degrees C With a Vitreous Silica Dilatometer.
 - .6 ASTM D 2240-05, Standard Test Method for Rubber Property-Durometer Hardness.
 - .3 Canada Green Building Council (CaGBC)
 - .1 LEED Canada-NC-2009, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations.
 - .4 Green Seal Environmental Standards
 - .1 Standard GS-11-97, Architectural Paints.
 - .5 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
 - .6 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.
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1.1 REFERENCES
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- .7 Terrazzo, Tile and Marble Association of Canada (TTMAC)
 - .1 2007 Specification Guide - Tile Installation Manual

1.2 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.
- .3 Provide samples in accordance with Section 01 33 00 - Submittal Procedures.
 - .1 Submit duplicate 300 x 300 x 6 mm thick samples of each available colour of plastic matrix terrazzo.
- .4 Sustainable Design Submittals:
 - .1 LEED Canada - Submittals: in accordance with Section 01 35 21 - LEED Requirements.
- .5 Closeout Submittals:
 - .1 Provide maintenance data for plastic matrix terrazzo for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

1.3 QUALITY ASSURANCE

- .1 Mock-ups: construct mock-ups in accordance with Section 01 45 00 - Quality Control.
- .2 Construct mock-up 10 m² of each type of plastic matrix terrazzo including one inside corner, one outside corner, change of material, door threshold.
- .3 Construct mock-up where directed.
- .4 Allow 24 hours for inspection of mock-up by Departmental Representative before proceeding with ceiling work.
- .5 When accepted, mock-up will demonstrate minimum standard for this work. Mock-up may remain as part of the finished work.

- 1.4 SUSTAINABLE REQUIREMENTS .1 Materials and products in accordance with Section 01 35 21 - LEED Requirements.
- 1.5 DELIVERY, STORAGE AND HANDLING .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Deliver materials to job site just prior to installation.
- .3 Store materials inside, in dry location, away from heavy traffic areas.
- .4 Deliver and store materials in manner to prevent damage.
- .5 Ensure materials remain in original wrapping and containers until used.
- .6 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.
- 1.6 ENVIRONMENTAL REQUIREMENTS .1 Safety: comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of materials.
.1 Respirators: worn by workers mixing epoxy.
- .2 Ventilation:
.1 Provided continuously during and after installation. Run system 24 hours per day during installation; provide continuous ventilation for 7 days after completion of installation.
- .3 Temperature:
.1 Maintain temperature and structural base temperature at plastic matrix terrazzo installation area above 12 degrees C for 24 hours prior to, during, and for 24 hours following installation.
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PART 2 - PRODUCTS

- 2.1 COLOURS .1 Colour: as selected by Departmental Representative from manufacturer's standard colour range.
- 2.2 EXPOXY FLOORING .1 Seamless Flooring System comprised of a three component, solvent-free epoxy undercoat consisting of resin, curing agent and filler, with brightly coloured broadcast flaxes, and a two-component, solvent-free UV resistant clear epoxy sealer.
.1 Meet the VOC limits as required by SCAQMD Rule 1113.
- .2 Physical Properties: provide flooring system in which physical properties of topping including aggregate, when tested in accordance with standards or procedures referenced below, are as follows:
.1 Tensile Strength: 5,200 psi to ASTM D-638.
.2 Hardness: 85 to 90 to ASTM D-2240, Shore D.
.3 Bond Strength: >300 psi to ASTM D-7234 (100% concrete failure).
.4 Impact Resistance: >160 in./lbs to ASTM D-4226.
.5 Abrasion Resistance: 0.03 gm max, weight
.6 Cure Rate: 12 hours for foot traffice (at 77°F/25°C), 24 hours for normal operations.
.7 Coefficient of Friction (dry): 0.79 to ASTM F-1679.
.8 Slip Resistance Index (wet): 0.65 to ASTM F-1679.
.9 Flexural Strength: 4,000 psi to ASTM D-790.
.10 Flexural Modulus of Elasticity: 1.7 x 10⁶ psi to ASTM D-790.
.11 Flammability: Class I to ASTM E-648.
.12 Linear Coefficient of Thermal Expansion: 17 10⁶in./in.°F.
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2.3 INTEGRAL COVE BASE .1 100 mm high integral base with mill finished aluminum cap.

2.4 JOINT SEALANT MATERIAL .1 As recommended by flooring manufacturer.

PART 3 - EXECUTION

3.1 PREPARATION .1 Substrate: Concrete preparation shall be by mechanical means and include use of a shot blast machine for removal of bond inhibiting materials such as curing compounds or laitance.

3.2 APPLICATION .1 General: Apply each component of resinous flooring system in compliance with manufacturer's directions to produce a uniform monolithic wearing surface of thickness indicated, uninterrupted except at divider strips, sawn joints or other types of joints (if any), indicated or required.

.2 Primer: Mix and apply primer over properly prepared substrate with strict adherence to manufacturer's installation procedures and coverage rates.

.3 Integral Cove Base: Install cove base integral with the floor 100 mm in height. All coves capped with manufacturer's specialty designed cove strip.

.4 Broadcast: Immediately broadcast quartz silica aggregate into the primer using manufacturer's specially designed sprycaster. Strict adherence to manufacturer's installation procedures and coverage rates is imperative

.5 Undercoat: Mix base material according to manufacturer's recommended procedures. Uniformly spread mixed material over previously primed substrate using

3.2 APPLICATION
(Cont'd)

- .5 Undercoat: (Cont'd)
manufacturer's installation tool. Roll material with strict adherence to manufacturer's installation procedures and coverage rates.
- .6 Broadcast: Immediately broadcast vinyl flakes into the undercoat. Strict adherence to manufacturer's installation procedures and coverage rates is imperative.
- .7 First Sealer: Remove excess unbonded flakes by lightly brushing and vacuuming the floor surface. Mix and apply sealer with strict adherence to manufacturer's installation procedures.
- .8 Second Sealer: Lightly sand first sealer coat. Mix and apply second sealer coat with strict adherence to manufacturer's installation procedures.

3.3 FIELD QUALITY
CONTROL

- .1 The right is reserved to invoke the following material testing procedure at any time, and any number of times during period of flooring application.
 - .2 The Departmental Representative may engage service of an independent testing laboratory to sample materials being used on the job site. Samples of material will be taken, identified and sealed, and certified in presence of Contractor.
 - .3 Testing laboratory will perform tests for any of characteristics specified, using applicable testing procedures referenced herein, or if none referenced, in manufacturer's product data.
 - .4 If test results show materials being used do not comply with specified requirements, Contractor may be directed by Company Representative to stop work; remove non-complying materials; pay for testing; reapply flooring materials to properly prepared surfaces which had previously been coated with unacceptable materials.
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3.4 CURING,
PROTECTION AND
CLEANING

- .1 Cure resinous flooring materials in compliance with manufacturer's directions, taking care to prevent contamination during stages of application and prior to completion of curing process. Close area of application for a minimum of 12 hours.
- .2 Protect resinous flooring materials from damage and wear during construction operation. Where temporary covering is required for this purpose, comply with manufacturer's recommendations for protective materials and method of application. Provide protection and cleaning of surfaces after final coats.

3.5 CLEANING

- .1 Provide in accordance with Section 01 74 11 - Cleaning.
- .2 Remove temporary covering and clean resinous flooring just prior to final inspection. Use cleaning materials and procedures recommended by resinous flooring manufacturer.

3.6 SCHEDULE

- .1 As indicated.