PART 1 - GENERAL

1.1 RELATED SECTIONS

.1 Section 03 30 00 - Cast-in-Place Concrete.

.2 Section 03 20 00 - Concrete Reinforcing.

.3 Section 03 10 00 - Concrete Forming and Accessories.

1.2 REFERENCES

.1 Canadian General Standards Board (CGSB)
  .1 CAN/CGSB-25.20-95, Surface Sealer for Floors.

.2 Canadian Standards Association (CSA)
  .1 CSA-A23.1-04/A23.2-04, Concrete Materials and Methods of Concrete Construction.

1.3 PERFORMANCE REQUIREMENTS

.1 Product quality and quality of work in accordance with Section 01 61 00 - Common Product Requirements.

.2 Submit written declaration that components used are compatible and will not adversely affect finished flooring products and their installation adhesives.

1.4 PRODUCT DATA

.1 Submit product data in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit WHMIS MSDS - Material Safety Data Sheets - Hazardous Materials. WHMIS MSDS acceptable to Labour Canada and Health and Welfare Canada for concrete floor treatment materials. Indicate VOC content.

.3 Include application instructions for concrete floor treatments.

1.5 ENVIRONMENTAL REQUIREMENTS

.1 Temporary lighting:
  .1 Minimum 1200 W light source, placed 2.5 m above floor surface, for each 40 sq m of floor being treated.

.2 Electrical power:
.1 Provide sufficient electrical power to operate equipment normally used during construction.

.3 Work area:
.1 Make the work area water tight protected against rain and detrimental weather conditions.

.4 Temperature:
.1 Maintain ambient temperature of not less than 10 °C from 7 days before installation to at least 48 hours after completion of work and maintain relative humidity not higher than 40% during same period.

.5 Moisture:
.1 Ensure concrete substrate is within moisture limits prescribed by flooring manufacturer.

.6 Safety:
.1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials.

.7 Ventilation:
.1 Ventilate enclosed spaces in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.
.2 Provide continuous ventilation during and after coating application.

PART 2 - PRODUCTS

2.1 SEALING COMPOUNDS

.1 Liquid densifier/sealer: high performance, deeply penetrating concrete densifier; odourless, colourless, VOC compliant, non-yellowing siliconate based solution designed to harden, dustproof and protect concrete floors subjected to heavy vehicular traffic and resist black rubber tire marks on concrete surfaces. The compound must contain a minimum solids content of 20%, of which 50% is siliconate. Sealer to be supplied by an ISO 9001-2000 registered manufacturer.

2.2 CURING COMPOUNDS

.1 Curing Compounds: to Section 03 30 00 - Cast-In-Place Concrete.

PART 3 - EXECUTION

3.1 EXAMINATION

.1 Verify that slab surfaces are ready to receive work and elevations are as indicated on shop drawings.

3.2 EXECUTION

.1 Finish concrete in accordance with CSA A23.1/A23.2.

.2 Use procedures acceptable to Departmental Representative to remove excess bleed water. Ensure surface is not damaged.

.3 Rub exposed sharp edges of concrete with carborundum to produce 3 mm radius edges unless otherwise noted.

.4 Saw cut crack control joints for slab-on-grade conform to CSA-A23.1/A23.2, 24 hour maximum after placing concrete.

3.3 APPLICATION

.1 After floor treatment is dry, seal control joints and joints at junction with vertical surfaces with sealant.

.2 Apply floor treatment in accordance with Sealer manufacturer's written instructions to areas as specified in finish schedule.

.3 Clean overspray. Clean sealant from adjacent surfaces.

.4 Thoroughly clean floor surface using a mechanical scrubber with white pads to ensure no damage is done to the surface.

.5 Apply "Liquid Densifier/Sealer" at a rate of 4.9 - 7.2 m2/L (200-300ft2/US gal) immediately at a time designated by the Departmental Representative. Sealer finish must be consistent and uniform in appearance and to the satisfaction of the Departmental Representative. If sealer is not applied satisfactorily, it will be re-applied at no cost to the Owner.

.6 Strictly follow manufacturer's application instructions.

.7 Select the section of the floor for the initial application. The liquid densifier/sealer shall be scrubbed into the concrete surface with a mechanical scrubber, using only white pads, at the rate specified herein, to assist the liquid to penetrate the concrete surface. In smaller areas and along the perimeter of the slab, a bristle brush may be used.

.8 Keep the surface wet with the densifier/sealer at all times during the application process. After the product thickens, but not more than thirty (30) minutes after initial application, the surface should then be squeegee onto the floor area that is to be treated next.

.9 Continue until entire floor area has been treated. Vacuum to remove all excess liquid. Do not leave any residue on the surface. The floor may be flushed with water to assist in the removal of the excess material.

.10 At completion, floor must be squeegee dry. If necessary, dry mops shall be used to dry up excess water.

3.4 PROTECTION

.1 Protect finished installation in accordance with manufacturer's instructions.

3.5 TOLERANCES

.1 Concrete finishing tolerance in accordance with CSA A23.1/A23.2.

.2 A permitted variation in any part of the construction or in any section of the specification shall not be construed as permitting violation of more stringent requirements for any other part of construction or in any specification section.

.3 Finish concrete slab on grade to a tight consistent steel trowel appearance without burnishing the surface. Finish in accordance with Class A Finish Classification per CSA A23.1/A23.2.

END