PART 1  GENERAL
1.1 SECTION INCLUDES
A. Finishing separate floor toppings, slabs-on-grade, and monolithic floor slab.
B. Surface treatment with concrete hardener, sealer, and slip resistant coatings.

1.2 REFERENCES
A. ACI 301 - Structural Concrete for Buildings
B. ACI 302 - Guide for Concrete Floor and Slab Construction
C. ASTM E1155 - Standard Test Method for Determining Fl Flatness and Fl Floor Levelness Numbers

1.3 SUBMITTALS
A. Submit under provisions of Section 01 33 00 Submittals Procedures.
B. Product Data: Provide data on concrete hardener, sealer, and slip resistant treatment, compatibilities, and limitations.

1.4 MAINTENANCE DATA
A. Submit under provisions of Section 01 77 00 Contract Closeout.
B. Maintenance Data: Provide data on maintenance renewal of applied coatings.

1.5 QUALITY ASSURANCE
A. Perform work in accordance with ACI 301 and ACI 302.
B. Maintain copies of each document on site.

1.6 DELIVERY, STORAGE, AND HANDLING
A. Deliver, store, protect, and handle products under provisions of Section 01 31 00 Project Management and Coordination.
B. Deliver materials in manufacturer's packaging including application instructions.

1.7 ENVIRONMENTAL REQUIREMENTS
A. Temporary Lighting: Provide minimum 200 W light source, 8' above the floor surface, for each 425 sq. ft. of floor being finished.
B. Temporary Heat: Ambient temperature of 50° F (10° C) minimum
C. Ventilation: Sufficient to prevent injurious gases from temporary heat or other sources affecting concrete.

1.8 COORDINATION
A. Coordinate work under provisions of Section 01 31 00 Project Management and Coordination.
B. Coordinate the work with concrete floor placement and concrete floor curing.

PART 2  PRODUCTS
2.1 COMPOUNDS - HARDENERS AND SEALERS
A. Non-Metallic Hardener: Premixed, dry powder, colored, emery aggregate and abrasion resistant hardener.

2.2 SLIP RESISTANT TREATMENT
A. Slip Resistant Finish: Aluminum oxide type, color as selected from manufacturer's standard range

PART 3  EXECUTION
3.1 EXAMINATION
A. Verify site conditions under provisions of Section 01 31 00 Project Management and Coordination.
B. Verify that floor surfaces are acceptable to receive the work of this section.
3.2 FLOOR FINISHING
   A. Finish concrete floor surfaces in accordance with ACI 301 and ACI 302.
   B. Wood-float surfaces that will receive quarry tile, ceramic tile, cementitious terrazzo with full bed setting system.
   C. Steel trowel surfaces receiving carpeting, resilient flooring, seamless flooring, thin set terrazzo, thin set quarry tile, and thin set ceramic tile.
   D. Steel trowel surfaces scheduled to be exposed.
   E. In areas with floor drains, maintain design floor elevation at walls; slope surfaces uniformly to drains as indicated on drawings.

3.3 FLOOR SURFACE TREATMENT
   A. Apply dry shake liquid hardener in accordance with manufacturer's instructions as scheduled.
   B. Apply slip resistant finish in accordance with manufacturer's instructions as scheduled.
   C. Apply sealer in accordance with manufacturer's instructions as scheduled.

3.4 TOLERANCES
   A. Measure for $F_F$ and $F_L$ tolerances for floors in accordance with ASTM E1155, within 72 hours after slab installation.
   B. Finish concrete to achieve the following tolerances:
      1. Under Ceramic or Quarry Tile on Setting Bed: $F_F$ 25 and $F_L$ 25
      2. Under Resilient flooring (VCT, sheet vinyl, etc): $F_F$ 30 and $F_L$ 25
      3. Exposed to View and Foot Traffic (polished concrete): $F_F$ 40 and $F_L$ 35
      4. Exposed stained concrete (mechanical, electrical, custodial): $F_F$ 20 and $F_L$ 15
      5. Exception: The $F_L$ levelness tolerances do not apply to any un-shored elevated construction.
      6. Correct the slab surface if the actual $F_F$ or $F_L$ number for the floor installation measures less than required.
   C. Identify areas requiring corrective work.
      1. Correct all defects in the defined traffic floor by grinding or removal and replacement of the defective work.
      2. Re-measure corrected areas by the same process.

END OF SECTION