

# Concrete DNA™ – Polished Concrete Specifications Levels 1 and 2

## I.1 General

### **Section I.01** Summary

- (a) Surface preparation
- (b) Application of densifier
- (c) Concrete Floor Supply polishing system using approved diamond tooling.

### **Section I.02** Related requirements

- (a) Section \_\_\_\_\_ cast in place concrete

*\*specifier note; edit this section as it relates to other sections directly related*

### **Section I.03** References

- (a) ASTM c1028 Test method for Standard Coefficient of Friction (SCOF)
- (b) Reflectivity of slab surface according to use of 60-degree gloss meter.
- (c) Contractor shall be an authorized and certified installer approved, trained, and certified by:

#### **1) Concrete Floor Supply**

13024 2<sup>nd</sup> Street  
Grandview, MO 64030  
816-599-2319

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### **Section I.04** Submittals

- (a) Comply with section 1330 – Submittal Procedures
- (b) Product data
  - (i) Densifier technical data sheet and application rates
  - (ii) Guard product technical data sheet and application rates (if applicable)
  - (iii) Cleaner and Cure remover technical data sheet and application rates
- (c) Equipment manufacturer and models to be used
  - (i) Diamond pad data sheet
  - (ii) Polishing machine
  - (iii) Squeegee vacuum
- (d) Installer Qualifications
  - (i) Certification by Concrete Floor Supply to apply/install Concrete DNA polishing system
    - 1) The installer shall be; a Concrete Floor Supply approved applicator/installer.
- (e) Indicated installation procedures (steps) and provide rendered floor plan of areas to be worked on including prospective dates and square footages
- (f) Mock up

- (i) Submit before and after pictures of mock up to architect
- (ii) Submit gloss testing results of mock up to architect

**Section I.05** *Quality Assurance*

- (a) Installer Qualifications
  - (i) Concrete Floor Supply certified installer
  - (ii) Contractor to have adequate number of skilled and trained work persons
- (b) Mock up
  - (i) Provide a mockup of at least 100 sq. feet in the location indicated, or as directed by architect or owners representative and have approved by architect or owners representative.
  - (ii) Give 7 days' notice to architect or owners representative prior to install of mock up
  - (iii) Maintain mock up area during construction to judge the completed work. *(if possible)*
- (c) Hold a pre-installation meeting via conference call, and/or onsite after completion of mock up and prior to commencing work
  - (i) Invite all related parties to meeting 7 days in advance. Attendees shall include;
    - 1) Architect, construction manager, owners representative, general contractor, equipment and densifier representatives, polishing subcontractor, and any other necessary party
  - (ii) Discuss; results of mockup, coordination and schedule of work, challenges or defects needing addressed, polishing and protection procedures, densifier application rate, etc.
    - 1) General contractor to record minutes and deliver to architect

**Section I.06** *Delivery, Storage, and Handling*

- (a) Deliver densifier, guard products, and other approved liquids in manufacturers original and unopened containers with labels identifying product
- (b) Store materials according to manufacturer's instructions. Keep from freezing.

**Section I.07** *Environmental Requirements*

- (a) Properly dispose of dust and slurry product from polishing procedures
- (b) Do not apply products when air or surface temperature is expected to fall below 40 degrees F (4 degrees C) within 4 hours of application
- (c) Do not allow standing water on floor after guard application

**Section I.08** *Warranty*

- (a) Installer to provide a workmanship warranty upon completion.
- (b) Installer to provide care sheet that details proper care, cleaner and pads to maintain the polished concrete

## II.1 Products

### **Section I.09** *Manufacturers*

- (a) Concrete Floor Supply, 13024 2<sup>nd</sup> Street Grandview, MO 64030, 816-599-2319
- (b) Or other approved manufacturers by Concrete Floor Supply

### **Section I.10** *Products*

- (a) Concrete DNA™ Densifier CS – Concrete Floor Supply
  - a) Level 2
- (b) Concrete DNA™ Densifier LS – Concrete Floor Supply
  - a) Level 1
- (c) Concrete DNA™ Polishing Guard – Concrete Floor Supply
  - a) Levels 1 and 2

### **Section I.01** *Equipment*

- (a) Propane powered diamond polishing and burnishing system with emissions shut off device
- (b) Auto Scrubber
  - (i) Approved and functional equipment
- (c) Slurry and waste water retrieving machine. (optional piece of equipment)
  - (i) Squeegee Vacuum
- (d) Diamond Polishing Pads
  - (i) Concrete DNA™ Satellite pads by Concrete Floor Supply
    - 1) Available grit sizes include: 50,100,200,400, 800, and 1500.
  - (ii) Concrete DNA™ Double Sided pads by Concrete Floor Supply
    - 1) Available grit sizes include: 200,400, 800, 1500 and 3000.
- (e) Densifier and Guard microfiber applicator pad
  - (i) Available through Concrete Floor Supply
- (f) Glue Removers and degreasing chemicals
  - (i) Available through Concrete Floor Supply

## III.1 Execution

### **Section I.02** *Surface Condition Examination*

- (a) Examine the surface with certified applicator and architect or owners' representative. Identify and note potential conditions that could affect the final polished finish.
- (b) Document all found conditions with a photograph and location on a floor plan. Discuss in pre-polish meeting.

### **Section I.03** *Preparation*

- (a) Clean surface to prepare for proper application of densifier products
  - (i) Remove all curing compounds
  - (ii) Removed all other contaminants such as grease, oil, paint, etc.
  - (iii) Thoroughly rinse floor and allow to dry
- (b) Install all joint fillers and repair products prior to slab enhancement per manufacturers specifications

### **Section I.04** *Application*

- (a) Wet polish slab
  - (i) Sequential progression of diamond grits required with each step no more than double the grit size of the previous step
  - (ii) Use grits to achieve outcomes of Concrete Floor Supply levels 1 or 2; whichever level is chosen for the project.
  - (iii) Auto scrub slab and/or pick up suspended slurry product with Slurry Vac between passes.
- (b) Apply Densifier
  - (i) Application shall be installed on a clean slab.
  - (ii) Application rates in accordance with manufacturer's instructions.
- (c) Continue to wet polish slab according to Level 1 or 2 instructions
- (d) Burnish Slab with 1500 and/or 3000 grit diamond impregnated burnish pad.
- (e) Apply Polishing Guard
  - (i) Apply per manufacturer's instructions

### **Section I.05** *Surface Finish Requirements*

- (a) Polish Finish shall have a uniform appearance with no evidence of scratches, swirls, or streaking.
- (b) Final surface gloss values shall be in accordance with 2.06 5a of this specification
  - (i) Test with a 60-degree gloss meter.
  - (ii) Gloss readings locations determined by utilizing the "Z Gloss Method"
- (c) Slip resistance of floor shall be no less than a .50 static coefficient of friction (SCOF) measure by a Regan Scientific Instruments Bot-3000. Testing determined by architect.

**Section 1.06 Protection**

- (a) Keep surface dry for a minimum of 24 hours after application of stain protection if applied, or per manufacturer's specifications.
- (b) Insure equipment and/or other trades do not spill, leak, or drip products such as oils, grease, paints, and fluids on finished slab.

**Section 1.07 Testing**

- (a) Gloss measurements to be taken at least once during, and at least once after project completion by testing firm selected by Architect
  - (i) Test gloss using a 60-degree gloss meter.
  - (ii) Gloss measurements to be compared to mock up location and shall be within 10 gloss points of mock up average
  - (iii) "Z gloss method" used as methodology of sampling
    - 1) Take readings at the 5 points of a "Z" (one on each end point (4), and another in the middle of the 'z')
    - 2) "Z" pattern shall be no more than 5' wide, 5' high, and symmetrical.
    - 3) Take readings in the center of the isle if applicable
    - 4) Readings can be no closer than 1' away from rack or shelf. "Z" dimension can be lowered by 1' increments to accommodate isles and walkways, but no less than 3' by 3' dimensions.
    - 5) Of the 5 gloss readings discard the high and low readings, and average the remaining 3 for a final reading.
      - a) Average gloss to meet:
        - i) Level 1 = 20+ on a 60-degree gloss meter
        - ii) Level 2 = 30+ on a 60-degree gloss meter
        - a. Note: or approved gloss of mock up
- (b) Slip resistance of floor shall be no less than a .50 static coefficient of friction (SCOF) measure by a Regan Scientific Instruments Bot-3000. Testing to be mandated by architect