

POLISHED CONCRETE FLOOR SPECIFICATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

Provisions established within the General and Supplementary Conditions of the Contract, Division 1 - General Requirements, and the Drawings are collectively applicable to this Section.

1.2 SECTION INCLUDES

A. Special requirements for Get Real Surfaces polished Concrete Process, [Get Real Surfaces, 121 Washington Street, Poughkeepsie, NY 12601. 845-452-3988].

B. Special requirements for integrally colored, polished and architectural cast-in-place concrete, as installed by Get Real Surfaces, 121 Washington Street, Poughkeepsie, NY 12601. 845-452-3988].

1.3 RELATED SECTIONS

- A. Section 03100 - Concrete Formwork.
- B. Section 03200 - Concrete Reinforcement.
- C. Section 03300 - Cast-in-place Concrete.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Indicate formwork shop drawings, including pertinent dimensions, materials, and arrangement of joints, reinforcing, and ties.
- C. Samples:
 - 1. Submit two (2) 12-inch by 12-inch by 1-inch-thick samples showing required Get Real Surfaces finish using integral colored design mix proposed for finished work.
 - 2. Sample will be approved for appearance, color, and texture.
- D. Forward two (2) copies of design mixes and cylinder break certifications for each type of concrete to Architect for review at least ten (10) days prior to need.

1.5 FIELD SAMPLES

- A. Prepare field samples under provisions of Section 01300 and coordinate with Section 03300. Locate where directed.
- B. 36" x 36" x 4" thickness Size panel to indicate special treatment and finish required.
- C. Use specified Get Real Surfaces integrally colored concrete in utilizing minimum concrete order size of 3 yards. This will help with color quality control.

Manhattan Office

143 W 29th Street, Suite 1100A
New York, NY 10001
v 212-414-1620 f 212-414-1618

Manufacturing

121 Washington Street
Poughkeepsie, NY 12601
v 845-452-3988 f 845-483-9580

D. Obtain acceptance of surface finish.

E. Maintain sample panel exposed to view for duration of concrete work. Remove when directed.

1.6 QUALITY ASSURANCE

A. Perform work in accordance with ACI 301, 303, 304, 305, 306, and 309.

B. Obtain materials from same source throughout job.

C. Batch plant shall be able to show a minimum of five (5) years experience in batching concrete. If required, plant shall furnish a list of similar sized jobs or special condition jobs performed during the last two (2) years.

1.7 REGULATORY REQUIREMENTS

Conform to applicable building code.

1.8 TESTS

Testing, monitoring, and analysis of concrete will be performed under provisions of Section 01400 [if any].

1.9 COORDINATION

A. Notify appropriate trades of concrete pour and polishing schedules to allow adequate time for installation of complementary trade work.

B. From material supplier, obtain anchor bolts / other steel items to be cast into concrete.

C. With appropriate trades, coordinate size and location of mechanical equipment concrete pads.

1.10 DELIVERY, STORAGE AND HANDLING

A. Deliver, store and handle materials in accordance with the requirements of Section 01610 and 01600.

B. Mix and deliver concrete to project ready-mixed in accordance with ASTM C94.

C. Schedule delivery so that continuity of any pour will not be interrupted for over 30 minutes.

D. Place concrete on site within 90 minutes after proportioning materials at batch plant.

PART 2 - PRODUCTS

2.1 CONCRETE MATERIALS

- A. Cement:
1. ASTM CI50, Type I or III (as determined by project conditions), grey color.
 2. Use only one brand, type and source of cement for entire Project.

Manhattan Office
143 W 29th Street, Suite 1100A
New York, NY 10001
v 212-414-1620 f 212-414-1618

Manufacturing
121 Washington Street
Poughkeepsie, NY 12601
v 845-452-3988 f 845-483-9580

B. Aggregate:

1. General:

- a. Provide fine and coarse aggregate for each type finish from one source for entire Project.
- b. Provide fine and coarse aggregate of color range and gradation to match approved samples.

2. Fine aggregate: ASTM C33.

- a. Manufactured sands from coarse aggregate or dust-free, silt-free, salt-free natural sand.
- b. Restrict deleterious reactive materials with alkalis in cement per ASTM C33.

3. Coarse aggregate:

- a. Normal weight aggregate: ASTM C33.
- b. Lightweight aggregate: ASTM C330.
- c. [Provide special mix, gradation, and color[s] as follows:]

C. Water: clean, fresh and potable.

D. Admixtures:

1. Only use admixtures, which have been tested and accepted in, mix designs.
2. Air Entrainment: ASTM C260.

E. Integral Coloring Admixture:

1. Integral Color by Davis Pigments, synthetic oxide pigment, meeting ASTM C979, [C494], ISO 9002, one (1) bag per yard in [specify color]. [Color to match Architect's sample. Color to be selected by architect/owner from manufacturer's available standard and custom colors].
2. Calcium chloride and admixtures containing chloride ions or other salts are not permitted.

2.2 CONCRETE POLISHING MATERIALS

A. Polishing / Hardening / Densifier agent: Vexcon Chemicals, PS Clear system or equal. [Available through Vexcon Chemicals, 7240 State Road, Philadelphia, PA 19135, 215-332-7709].

B. Finish / Stain Resist agent: Vexcon Chemicals, PS Clear system or equal. [Available through Vexcon Chemicals, 7240 State Road, Philadelphia, PA 19135, 215-332-7709].

C. Diamond Pads: #30, #60, #120, #220, #400, #800, #1500, as conditions dictate, or equal. [Available through Vexcon Chemicals, 7240 State Road, Philadelphia, PA 19135, 215-332-7709].

PART 3 - EXECUTION

3.01 CONCRETE PLACEMENT

- A. Concrete should be batched and placed in accordance with ACI standards.
- B. Concrete should be hard-steel-troweled finished but not "burned."
- C. Maintain consistent water to cement ratio.
- D. Ensure slump remains consistent and does not exceed five (5) inches.

Manhattan Office

143 W 29th Street, Suite 1100A
New York, NY 10001
v 212-414-1620 f 212-414-1618

Manufacturing

121 Washington Street
Poughkeepsie, NY 12601
v 845-452-3988 f 845-483-9580

- E. Use a wood float as magnesium floats can entrap bleed water.
- F. Attempt a flat floor finish of FF40 or better. FF = Floor Flatness.
- G. Care should be taken not to overwork or trowel-burn edges.
- H. Do not topically apply water during finishing, as it will weaken the surface and can cause a washed-out appearance.
- I. Do not over-apply curing compound, as a milky appearance will result.
- J. Do not use waxed, acrylic, silicone or petroleum-based curing compounds for concrete to be polished.
- K. Use of dissipating curing compounds or non-staining waterproof cure paper should be considered.

3.02 CONCRETE FINISHING GUIDELINE

- A. Care must be taken during concrete finishing to obtain an FF 40 or better, and to avoid over-working, surface watering, chatter marks, and application of non-approved curing compounds that will blemish and / or weaken the surface. (For approved curing agents and methods, refer to Get Real Surfaces ready-mix specification).
 - B. It is paramount to maintain consistent placement and finishing techniques throughout the pour, without adding water to the surface as cloudiness, inconsistent strength and non-uniform appearance may result.
 - C. Contractors shall be advised that the concrete slab is the finished floor. No known chemical process or cleaning system will completely remove petroleum stains from concrete surfaces. Prevention of spills is essential.
 - C. DO NOT allow trades to park vehicles on the slab without applying protection, such as plastic or non-absorbent drop clothes, under the vehicles.
 - E. DIAPER any hydraulic equipment used on the floor during the construction process.
 - E. NO pipefitting / cutting will take place on the floor slab.
 - G. DO NOT place steel on the slab without protection beneath.
- REMEMBER – THIS SLAB WILL BECOME THE FINISHED FLOOR.

Manhattan Office

143 W 29th Street, Suite 1100A
New York, NY 10001
v 212-414-1620 f 212-414-1618

Manufacturing

121 Washington Street
Poughkeepsie, NY 12601
v 845-452-3988 f 845-483-9580

www.getrealsurfaces.com

3.03 CONCRETE POLISHING GUIDELINES

- A. All concrete floor surface designated to be polished shall to be polished using the Get Real Surfaces Polishing Procedures, a proprietary method of polishing poured-in-place concrete, with no known equal. Contact Get Real Surfaces, 121 Washington Street, Poughkeepsie, NY 12601. 845-452-3988.
- B. Install Radian Floor heating system as noted in section.

END OF SECTION