

**SECTION 09 01 61
FLOOR PATCHING AND LEVELING**

PART 1 - GENERAL

1.1 DESCRIPTION:

- A. This section specifies leveling, filling and patching of existing concrete and concrete topped floors.

1.2 RELATED WORK

- A. Additional materials for floor patching: Section 03 30 53, MISCELLANEOUS CAST-IN-PLACE CONCRETE.

1.3 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Manufacturer's Literature and Data:
1. For leveling and fill products unless submitted under another product sections. Include data showing conformance to the requirements of this section.
 2. Description of each product.
 3. Application and installation instructions.
 4. Limitation that may affect this project.
- C. Certifications:
1. Certifying that product conform to the requirements of this Specification.

1.4 DELIVERY

- A. Deliver materials to the site in original sealed packages or containers, clearly marked with the manufacturer's name or brand, type and color, production run number and date of manufacture.
- B. Store materials in weathertight and dry storage facility.

1.5 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. American Society for Testing and Materials (ASTM):
- C109.....Standard Test Method for Compressive Strength of Hydraulic
Cement Mortars (Using 2-in. or [50-mm] Cube Specimen)
- C348.....Standard Test Method for Flexural Strength of Hydraulic-
Cement Mortars.

C885.....Standard Test Method for Bond Strength of Epoxy-Resin
Systems Used With Concrete By Slant Shear.

PART 2 - PRODUCTS

2.1 FLOOR LEVELING COMPOUND

- A. Polymer modified cementitious, self-leveling floor underlayment conforming to the following:
 - 1. Compressive Strengths: Not less than 5500 psi (38 MPa) (28 days) (Modified ASTM C 109)
 - 2. Flexural Strength: Not less than 1100 psi (8.7 MPa) (28 days) (ASTM C 348)
 - 3. Tensile Strength: Not less than 720 psi (5 MPa) (28 days) (ASTM C 190)
- B. Acceptable Manufacturers and Products include:
 - 1. CPM Specialty Products; Product Level Finish: www.cmpspecialtyproducts.com.
 - 2. Laticrete International; Product LatiLevel 88: www.laticrete.com.
 - 3. Maxxon Inc.; Product Level Right: www.maxxon.com.
- C. If final surface is indicated to be sealed and exposed, provide a leveling compound recommended for use as a wear surface or provide a wear topping.

2.2 MODIFIED CONCRETE PATCHING COMPOUND

- A. Provide a polymer-modified concrete (additive or pre-mixed) designed for horizontal surface repairs from 3/8 inch to 2 inches deep.
 - 1. Compressive Strengths: Not less than 5500 psi (38 MPa) (28 days) (Modified ASTM C 109)
 - 2. Flexural Strength: Not less than 1180 psi (8.1 MPa) (28 days) (ASTM C 348)
 - 3. Bond Strength: Not less than 1650 psi (11.4 MPa) (28 days) (Modified ASTM C 882)
- B. Acceptable Manufacturers and Products include:
 - 1. CPM Specialty Products; Product IFP: www.cmpspecialtyproducts.com.
 - 2. ProSpec (by Bonal American, Inc); Product Vinyl Concrete Patcher: www.prospec.com.
 - 3. The Euclid Chemical Company; Product Concrete Top Supreme: www.euclidchemical.com.

2.3 CONCRETE MATERIALS

- A. Conform to Section 03 30 53, MISCELLANEOUS CAST-IN-PLACE CONCRETE.

PART 3 - EXECUTION**3.1 EXAMINATION**

- A. After demolition of wall, removal of existing floor finish and demolition and removal of other elements as indicated clean and sound remaining concrete surface and remove of any loose concrete. Then examine the conditions of the concrete surface. Take photos, in necessary, to document existing conditions.

3.2 PREPARATION

- A. Clean and prepare concrete surface as recommended by topping/ fill manufacturer for the specific type of application being planned.

3.3 GENERAL REQUIREMENTS

- A. Subfloor surface (if finish material is to be added) or floor surface (if concrete is to be left exposed) in all rooms where work is done shall be repaired to sound, reasonably smooth and reasonably level surface.

3.4 REPAIR TYPES

- A. Repair Type 1 - General Floor Damage Repair
 - 1. Repair includes spall and chips caused by movement or wear and damage caused by demolition work in this Project.
 - 2. Fill and level as require to produce a sound, smooth surface.
- B. Repair Type 2 - Trench Repair
 - 1. Repair includes holes or "trenches" left in floor where wall or other building element is removed and it is apparent the that there was originally no topping poured at the location where the wall or other building element was removed.
 - 2. Fill "trench" or hole to level of adjacent floor.
- C. Repair Type 3 - Out of Plane Repair
 - 1. Repair includes location where removal of wall or other building element reveals that the floor on one side of the removed wall is not in plane with the floor on the other side of the removed wall. Also includes other areas where floor is out of plan or does not meet the slope requirement indicated under Tolerances
 - 2. Grind or fill as required and to the extent required to obtain a resulting surface that does not slope at a greater rate than 1/8 inch per foot.
- D. Repair Type 4 - General Fill

1. Repair includes patching or filling floor where a penetrant (such as a duct or pipe) is removed or where a hole is cut for new work. This includes all "holes" which can be reasonably anticipated based on demolition and new work drawings.
2. Provide form deck or other means to form fill. Where indicated, provide reinforcing. Pour floor fill and level as required.
3. Where penetration is open to the floor below (including in ceiling plenum) seal form material to prevent concrete or water from dripping into ceiling or occupied space below.

3.5 INSTALLATION

- A. Prepare surface, mix product and install as recommended by product manufacturer.
- B. Topping or Fill of Existing or New Surface
 1. Topping thickness of 1/4 inch or less: level or fill with floor leveling compound specifically designed for such applications.
 2. Topping thickness of 1/4 inch to 2 inches: level or fill with modified concrete patch compound.
 3. Topping thickness greater than 1½ inches: level or fill with concrete.
- C. Protect and cure toppings and fills as recommended by manufacturer.

3.6 TOLERANCES

- A. Except as noted otherwise for drainage, maximum slope of floor shall not exceed 1/8 inch per foot (10 mm per M).
- B. In specific instances, due to existing conditions, this requirement may be waived if so indicated in writing by the Owner.

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