

**CONCRETE REPAIR**

1. **APPLICABILITY**

Construction Specification 35 is applicable to the usual types of concrete repair entailed in NRCS operations. Supplementary specifications will be required for works of a special nature, such as:

- a. Placing concrete repair under water.
- b. Concrete repair exposed to sea or salt water.
- c. Concrete repair exposed to alkali soils or alkaline water.
- d. Special surface finishes.

2. **MATERIAL SPECIFICATIONS**

The following specifications are complementary to Construction Specification 35:

- a. Aggregates. Specification 522
- b. Portland Cement. Specification 531
- c. Fly Ash. Specification 532
- d. Water-Reducing, Set-Retarding Admixtures. Specification 533
- e. Air-Entraining Admixtures. Specification 532
- f. Curing compounds. Specification 534

3. **ITEMS TO BE INCLUDED IN CONTRACT SPECIFICATIONS AND DRAWINGS**

- a. Complete engineering and structural detail drawings of the repair.
- b. Notation of the type and quality of concrete, including:
  - (1) Strength of concrete repair material if other than 4000 psi.
  - (2) Type of cement.
  - (3) Types of admixtures, if any.
  - (4) Nominal size of coarse aggregate; or specification for aggregate if Material Specification 522 does not apply.
  - (5) Authorization for a design mix that includes pozzolan as a partial substitute for cement.

- (6) Deviations from the air content, if any.
- (7) If replacement concrete is permitted, specify slump of the non-plasticized concrete mixture.
- c. Notation of which strength test procedure is to be used when ASTM C 684 is used.
- d. If volumetric batching and continuous mixing is not permitted, include statement to that effect.
- e. Deviations, if any, from specifications requiring:
  - (1) Placement of concrete repair in a single continuous pour.
  - (2) Consolidation of concrete repair material with vibrators.
- f. Finish requirements for unformed surfaces if other than float finish is designated.

#### 4. DISCUSSION OF METHODS

##### a. Section 17, Measurement and Payment

- (1) Method 1 is intended for use when the actual approved volume of the repair will be calculated to determine payment.
- (2) Method 2 is intended for use when proprietary repair methods are used and the major components come in pre-measured and pre-packaged units. The size of a unit should be discussed in Section 18.
- (3) Method 3 is intended for use when the actual approved surface area of the repair will be calculated to determine payment.

When specifications are prepared using electronic procedures and all but one method are deleted for use in the contract specification, delete "All Methods The following provisions apply to all methods of measurement and payment." and left justify the remaining text.