

Instructions for use**Construction Specifications 32—Structure Concrete****1. Applicability**

Construction Specification 32 is applicable for the installation of low and moderate hazard structures, where the quantity of concrete is generally 75 cubic yards or less per structure, and where the location of the structure will allow economical maintenance or replacement.

2. Material specifications

The following material specifications complement Construction Specification 32:

- 522—Aggregates for Portland Cement Concrete
- 531—Portland Cement
- 532—Supplementary Cementitious Materials
- 533—Chemical Admixtures for Concrete
- 534—Concrete Curing Compound
- 535—Preformed Expansion Joint Filler
- 537—Nonmetallic Waterstops
- 538—Metal Waterstops

When local aggregates do not conform to the requirements of Material Specification 522, but are known to produce concrete of adequate quality, reference to Interim Standard Material Specification is permissible, or requirements may be stated in the construction details in section 24.

3. Included items

Items to be included in contract specifications and drawings follow:

- a. Class of concrete.
- b. Type, size and quantity of joint filler, waterstop, and any other items to be embedded.
- c. Type of cement.
- d. Specify in section 24 if fly ash or ground blast-furnace slag is required or is not allowed in the design mix as a partial substitute for cement.

Specify supplementary optional physical requirements listed in ASTM C618 if applicable. For example, if fly ash is required to control alkali-silica reaction, specify, "In Section 2, fly ash shall meet the supplemental optional physical requirement for effectiveness in controlling alkali-silica reaction as stated in ASTM C618."

If it is required to improve resistance to moderate sulfate attack, specify, "In Section 2, fly ash shall meet the supplemental optional physical requirement for effectiveness in contributing to sulfate resistance, Procedure A for moderate sulfate exposure after 6 months exposure as stated in ASTM C618."

- e. Nominal size of coarse aggregate; or specifications for aggregate if Material Specification 522 does not apply.
- f. Specify in section 24, maximum allowable water to cement or water to cementitious materials ratio if other than 0.5.
- g. Type of admixtures, if any.
- h. Specify in section 24, type and class of curing compound. Refer to Table A-31 in the instructions for Construction Specification 31, Concrete for Major Structures for guidance in selecting the curing compound (ASTM C309) or curing and sealing compound (ASTM C1315). Include the type and class as applicable. For example state, "In Section 2, curing compound shall comply with ASTM C309, Type 2 or ASTM C1315, Type II."
- i. Special slump and air content requirements, if applicable.
- j. Include a statement if volumetric batching and continuous mixing are not permitted.
- k. Special type of finish or coating of finished surfaces.
- l. Note in section 24 any other deviations from the basic specifications.
- m. Describe method of measurement and payment if it differs from the methods listed in section 23.

4. Items of work and construction details

Starting at the top of page 32–6, prepare and outline job specific "Items of Work and Construction Details" (IWCD) in accordance with these instructions.

