

CHAPTER 3

SAMPLING AND TESTING

3-1. Cement. Cement for mobilization pavement projects may be accepted on the basis of the manufacturer's certified mill tests reports showing compliance with cited cement specifications. Cement will be sampled and tested only when there is reason to believe it does not meet the specifications.

3-2. Aggregates. Aggregate sources will be based on an investigation to determine the suitability of available aggregates for the proposed use. In general, existing approved sources should be used and new sources should be avoided as much as possible. Otherwise, evaluation of the material will require laboratory testing, including petrographic examinations, physical tests, durability tests, and alkali-reactivity tests which are time consuming. The service record of the aggregates will be determined by inspecting structures that have had exposure equivalent to the proposed structure. When an aggregate source has been approved previously for use on the basis of a complete investigation, additional similar use of the source may be permitted if there is no change evident in the composition and quality of aggregate.

3-3. Field test specimens.

a. General. Field tests other than those called for by Contractor quality control will be conducted by the Government to determine the slump and air content of freshly mixed concrete, and specimens will be molded to test for flexural strength of hardened concrete. Since the Contractor will be required to furnish concrete samples, labor, and facilities for molding and curing test specimens, it is necessary that specifications indicate the extent of testing required. Equipment for making air-content and slump tests will be furnished by the Contracting Officer when the Government is responsible for testing and by the Contractor when the Contractor is responsible for testing. Beam molds will be made of steel, rigid and watertight. Beam molds will be supplied by the Contracting Officer, except when the Contractor is responsible for testing. When molds are required to be furnished by the Contractor, details necessary to assure that molds furnished are satisfactory will be included in the contract specifications.

b. Specimens for strength tests. Test specimens for determining the conformance with specified strength requirements will be moist-cured under field-laboratory conditions. The size and number of curing tanks will depend on the number of specimens taken and the ages at which the tests are made. For airfield paving projects, flexural-strength tests will be conducted at the ages of 7, 28, and 90 days. For other pavements, designed on the basis of 28-day flexural strengths, the test ages will be 7 and 28 days. Where 90-day

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flexural-strength tests are required, provisions will be made for the curing and testing of specimens after the project is completed.