

SECTION 801 PORTLAND CEMENT AND BLENDED HYDRAULIC CEMENTS

This material consists of portland cement and blended hydraulic cements conforming to the following requirements:

- a. *Portland Cement.* Portland cement shall conform to the requirements of AASHTO M 85, except "Fineness" shall be measured by the air permeability test, and a maximum specific surface of 420 m²/kg will be permitted. Unless otherwise specified, cement shall be either Type I or Type II.
- b. *Blended Hydraulic Cements.* Type IP or Type I(PM) or Type IS or Type I(SM) cement, conforming to the requirements of AASHTO M 240, will be permitted as an alternate to Type I or Type II cement in all classes of concrete, subject to the following conditions:

Type IP or I(PM): (fly ash)

Type IS or I(SM): (ground granulated blast furnace slag)

Reserved bins shall be sampled by the Department or its authorized representative, and all tests shall be completed before the cement is accepted. Only pretested and accepted cement shall be used.

Orders for cement shall be placed with the manufacturer at least ten days before the first shipment is made.

Railroad cars and truck transports used to transport bulk cement shall be of a design that can be properly and completely unloaded. They shall be loaded and sealed by authorized representatives of the Department, and the seals will be removed by authorized representatives of the Department.

All cement used in any one Contract item shall be of a single brand, from a single mill, unless otherwise authorized in writing by the Engineer.

Upon approval from the Engineer, the preceding requirements for reserved bins and sealed shipments may be waived if the cement manufacturer qualifies for inclusion in the program of certification.

A manufacturer may become qualified by establishing a history of satisfactory quality control of cement produced as evidenced by results of tests performed by the Department and the manufacturer's testing laboratory, and upon approval of production and storage facilities by the Engineer. The manufacturer shall conduct sufficient tests to ensure that adequate quality control is maintained and that cement furnished conforms to the specification requirements. The manufacturer shall maintain a record of all tests for review by the Engineer. Samples for tests of any cement may be taken at any time necessary as determined by the Engineer.

Cement manufacturers will be furnished specific details on requirements; however, the Engineer reserves the right to modify the program for all participants, as required, or to impose additional or special requirements on manufacturers as considered necessary to maintain control.

Any manufacturer who fails to cooperate in a satisfactory manner or cannot furnish cement within the established limits of acceptance will be required to cease participation in the certification program. In such cases, pretesting, reserved bins, and sealed shipments will be required.

The temperature of the portland cement at the time of delivery to the paver or mixer shall not exceed 150 °F (66 °C).

