

SECTION 725 – REVISED 8/17/11

manufacturer. The type of cementitious material, and the weight contained in each sack shall be plainly marked thereon.

Cementitious materials shall be stored in such manner as to permit ready access for the purpose of inspection and identification, and so as to be suitably protected against damage by contamination or moisture. Should any lot of bulk cementitious material be delivered to the site show evidence of contamination, the Engineer may require that such lot be removed from the site.

725.2.1 Supplementary Cementitious Materials (Pozzolans): Supplementary Cementitious Materials to be used in concrete or furnished under this specification shall conform to the appropriate ASTM requirements as follows:

Fly ash or natural pozzolan	ASTM C-618 and C-311
Silica Fume	ASTM C-1240

Up to 25 percent by weight of the Table 725-1 minimum cementitious materials requirements may be an approved fly ash or natural pozzolan. Additional pozzolanic material in excess of the minimum Table 725-1 requirements may be incorporated into a concrete mix design to achieve enhanced performance, upon approval of the Engineer.

The Contractor shall obtain and deliver to the Engineer a certification of compliance signed by the pozzolan supplier identifying the pozzolanic material and stating the pozzolan delivered to the batching site complies with the appropriate specifications. The cost of furnishing tested pozzolan shall be considered as included in the contract bid price and no additional allowance will be made therefore.

Pozzolanic materials shall be handled and stored in the same manner as other cementitious materials. When facilities for handling a bulk pozzolan are not available, the pozzolan shall be delivered in original unopened sacks bearing the name and brand of the supplier, the type and source of the pozzolan, and the weight contained in each sack plainly marked thereon.

725.3 AGGREGATES:

(Note: transferred from Section 701.3.3 with modifications)

Coarse and fine aggregate shall conform to the applicable requirements of ASTM C-33.

Coarse aggregate grading requirements shall conform to the appropriate rock size designation in the Grading Requirements for Coarse Aggregate, –Table 2. Fine aggregate grading requirements shall conform to the Fine Aggregate Grading section.

The average value of 3 successive sand equivalent samples shall not be less than 70 when tested in accordance with AASHTO T-176/ASTM D-2419. No individual sample shall have a sand equivalent less than 65.

The loss by abrasion in the Los Angeles Abrasion Machine, determined as prescribed in ASTM C-131, –Grading A, shall not exceed 10 percent, by weight, after 100 revolutions nor 40 percent after 500 revolutions.

Coarse aggregates, consisting of crushed rock or gravel or a combination thereof, and fine aggregate shall conform to the requirements prescribed in Section 701.3.3. Prior to the delivery of the aggregates and whenever required during concrete production, the Contractor shall make stockpiles available to the Engineer for testing. All required samples shall be furnished at the expense of the Contractor, and the cost of sampling and testing shall be at the expense of the Contracting Agency.

725.4 WATER:

The water used for mixing concrete shall be potable or shall meet the requirements of ASTM C-1602, when tested by a qualified independent testing laboratory.

725.5 ADMIXTURES AND ADDITIVES:

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TABLE 776-4			
GROUT FOR REINFORCED MASONRY PROPORTIONS BY VOLUME FOR FIELD BATCHING			
Type	Portland Cement	Fine Aggregate (ASTM C-404)	Coarse Aggregate (ASTM C-404)
Fine Grout	1	2 1/4 to 3	0
Coarse Grout	1	2 1/2	1 to 2

776.2 PORTLAND CEMENT:

The cement used shall conform with Section 725. For volumetric proportioning an unopened sack of cement weighing 94 pounds shall be considered as having a 1 cubic foot volume.

In proportioning the cement, it shall be measured loose, without shaking or compacting, in measuring devices of known capacity.

776.3 AGGREGATE:

(Note: Transferred from Sections 701.3.2 and 701.3.4 with modifications)

~~The All aggregate used shall conform with Section 701. It shall be approved by the Engineer prior to being utilized on the job. Any change of course will require additional approval or this neglect will be considered as sufficient cause for rejection of work.~~

Fine aggregate (sand) to be used in mortar shall be thoroughly and uniformly washed and shall be entirely free from oil and deleterious substances. The size and grading of fine aggregate shall conform to the applicable requirements of ASTM C-144.

Fine or coarse aggregate to be used in masonry grout shall be thoroughly and uniformly washed and shall be entirely free from oil and deleterious substances. The size and grading of fine or coarse aggregate shall conform to the applicable requirements of ASTM C-404.

The average value of sand equivalent determined on 3 successive samples shall not be less than 70 when tested in accordance with ASTM D-2419.. No individual sample shall have a sand equivalent less than 65.

In proportioning the aggregate, it shall be measured damp, loose without shaking or compacting, in measuring devices of known capacity.

776.4 MASONRY CEMENT:

Masonry cement used shall conform to ASTM C-91 with the exception that the average compressive strength shall not be less than 2500 psi at 28 days.

776.5 HYDRATED LIME:

Hydrated lime used shall conform to ASTM C-207, Type S.

776.6 WATER:

The water used shall conform to section 725.

776.7 ADMIXTURES:

Admixtures, unless prescribed in the special provisions, will not be used without prior approval of the Engineer.