

SECTION 107

COARSE AGGREGATE FOR USE IN PORTLAND CEMENT CONCRETE

107.1 GENERAL REQUIREMENTS

A. Coarse Aggregate for Concrete Pavement:

The coarse aggregate shall consist of crushed limestone rock or other crushed quarry rock from a source that is approved by SDDOT and meets City of Rapid City and SDDOT specifications for coarse aggregate for use in Portland Cement Concrete.

B. Coarse Aggregate for Class A and M Concrete:

The coarse aggregate shall consist of crushed limestone rock or other crushed quarry rock from a source that is approved by SDDOT and meets City of Rapid City and SDDOT specifications for coarse aggregate for use in Portland Cement Concrete.

C. Coarse Aggregate for Bridge Deck Resurfacing:

The coarse aggregate shall be produced from crushed quarry stone from sources approved by the Engineer.

D. Related Work:

- Section 40 - Portland Cement Concrete Pavement
- Section 55 - Concrete Masonry
- Section 56 - Concrete for Incidental Construction (Class M)
- Section 60 - Concrete Curb and Gutter
- Section 61 - Concrete Sidewalk and Handicap Ramps
- Section 62 - Drop Inlets
- Section 67 - Fabric Formed Concrete Mat

107.2 SPECIFIC REQUIREMENTS

A. Deleterious Substances:

The amount of deleterious substances shall not exceed the following limits by dry weight:

Clay lumps..... 0.25%

Coal and lignite.....	0.25%
Shale and other materials having a specific gravity less than 1.95%..	1.00%
Soft fragments.....	2.00%
Other deleterious substances (such as alkali, mica, coated grains, flaky particles, and chocolate rock).....	2.00%

The maximum amount of deleterious substances listed above shall not exceed two percent (2.00%) by dry weight.

The deleterious substances in the coarse aggregate for Class M concrete shall not exceed the following limits:

Clay lumps.....	0.50%
Coal Lignite.....	0.25%
Shale and other material of less than 1.95 specific gravity.....	1.00%
Soft fragments.....	2.00%
Other deleterious materials (such as alkali, mica, coated grains, flaky particles and chocolate rock).....	3.00%

The maximum amount of deleterious material shall not exceed three percent (3.00%) by dry weight.

B. Percentage of Wear:

The percentage of wear, Los Angeles abrasion test, shall not be more than forty percent (40%) by weight.

C. Soundness:

When the coarse aggregate is subjected to five (5) alternations of the sodium sulfate soundness test, the weighted loss shall not exceed ten percent (10%) by weight.

When Class M coarse aggregate is subjected to five (5) alternations of Sodium Soundness test, the weighted loss shall not exceed twelve percent (12%) by weight.

A satisfactory soundness record for deposits from which material has been used in concrete for five (5) years or more, may be considered as a substitute for performing the sodium sulfate soundness test.

D. Gradation:

Each size of coarse aggregate shall conform to the gradation requirements specified in the following table:

PERCENTAGE BY DRY WEIGHT PASSING SIEVE

Size	Nominal Size	1ø in.	1 in.	¾ in.	½ in.	3/8 in.	#4	#8
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No. Sq. Openings

1	1 inch-No. 8	100	95-100		25-60		0-10	0-5*
3	3/4 inch-No. 8			100	97-100	40-90	5-20	0-5*
5	1/2 inch-No. 8			100	90-100	40-70	0-20	0-5*

*The combined mixture of fine and coarse aggregate shall be such that not more than 1.5 percent passes the No. 200 sieve. This limit shall not be more than 2.5% for Class M Concrete.

E. Sampling and Testing:

Sampling	SD 201
Gradation.....	SD 202
Clay Lumps	AASHTO T 112
Lightweight Particles	SD 214
Soft Fragments.....	SD 218
Chocolate Rock	SD 216
LA Abrasion.....	AASHTO T 96
Soundness Test	SD 220
Material Finer than No. 200 Sieve.....	SD 206

107.3 METHOD OF MEASUREMENT &

107.4 BASIS OF PAYMENT

Coarse aggregate for use in Portland Cement Concrete and similar uses will be considered incidental to the various bid items. There will be no separate measurement and payment for coarse aggregate used in Portland Cement Concrete and similar uses.

END OF SECTION