

SECTION 109

RIPRAP AND SLOPE MATERIALS

109.1 REQUIREMENTS

A. Riprap:

Stone for riprap shall be hard, angular, and durable and shall have a minimum weight of 155 pounds per cubic foot. Stone may either be quarried ledge rock or field stone. Stone shall be free from overburden, spoil, shale, and organic material and shall meet the following gradation requirements.

	Size of Stone (lbs.)	% of Total Wt.
Class I	150 to 100	15 to 25
	100 to 50	15 to 45
	50 to 5	15 to 55
	5 to 0	0 to 10
Class II	500 to 300	15 to 25
	300 to 150	15 to 45
	150 to 15	15 to 55
	15 to 0	0 to 15
Class III	1000 to 600	15 to 25
	600 to 300	15 to 45
	300 to 30	15 to 55
	30 to 0	0 to 15
Class IV	1400 to 1000	15 to 25
	1000 to 500	15 to 55
	500 to 50	15 to 45
	50 to 0	0 to 15
Class V	2000 to 1400	15 to 25
	1400 to 700	15 to 45
	700 to 70	15 to 55
	70 to 0	0 to 20

Each load of riprap shall be well graded from the smallest to the maximum size specified. No more than five percent (5%) by weight shall pass a one-half (1/2) inch square opening sieve.

B. Filter Material:

Filter material shall consist of clean, hard, durable, open graded sand, gravel, or rock, crushed or uncrushed, meeting the following gradation requirements by dry weight:

Passing a 3 inch sieve.....	100%
Passing a 3/4 inch sieve.....	70 to 95%
Passing a No. 4 sieve.....	40 to 75%
Passing a No. 200 sieve.....	0 to 8%

The P.I. of the filter material shall not exceed six (6).

The material shall be obtained from approved sources, which contain no organic matter or soft friable particles. Pit run local material will be acceptable if the specifications are met.

C. Testing:

Plasticity Index.....	SD 207
Specific Gravity.....	SD 210

**109.2 METHOD OF MEASUREMENT &
109.3 BASIS OF PAYMENT**

Measurement and payment shall be in accordance with Sections 65 and 66 of these specifications.

END OF SECTION