

Test Designation	Cover Stone		All Other Stones	
	Min.	Max.	Min.	Max.
(1) Sampling shall be performed in accordance with ASTM D 75				
(2) The absorption of the stone determined in accordance with ASTM C 127		1.5%		3.0%
(3) The weight per cubic foot calculated from the bulk specific gravity saturated surface dry in accordance with ASTM C 127	160 lbs		150 lbs	
(4) The loss by abrasion of the stone determined in accordance with ASTM C 535, when processed and tested for No. 1 grading.		35.0%		40%
(5) The gradation of stone determined in accordance with ASTM D 5519				

5.1.9.3 Acceptance Tests will be made by or under the supervision of the Government and at its expense. Stone shall be durable and of a suitable quality to ensure permanence in the structure and in the climate in which it is to be used. It shall be free from cracks, clay pockets, seams, and other defects that may increase unduly its deterioration from natural causes. The inclusion of objectionable quantities of dirt, sand, clay, and rock fines will not be permitted.

5.1.9.4 Filler Stone shall consist of natural limestone which has been quarried, crushed, and conforms to a gradation that allows 100 percent to pass the standard 4-inch sieve and not more than 5 percent to pass the standard 1/2-inch sieve.

5.1.10 EXECUTION

5.1.10.1 BLANKET STONE.

5.1.10.1.1 General. Blanket stone composed of crushed rock or stone shall be placed over the existing or prepared bottom and slopes within the limits shown. The blanket stone shall conform to the requirements of the Subparagraph: Quality above, as to quality and shall be reasonably well graded from 1/2-inch to 200 pounds, with not more than 5 percent passing the 1/2-inch screen square opening. Reasonably well-graded stone shall include essentially the stone sizes between the two (2) extremes specified which will result in a dense, fairly well-graded material not having noticeable voids or a lack of the larger sizes.

5.1.10.1.2 Placement. Blanket stone shall be spread uniformly in a satisfactory manner to the neat lines shown. Placing stone by methods which will tend to segregate particle size within the blanket will not be permitted.

5.1.10.2 CORE STONE.

5.1.10.2.1 General. Core stone shall be placed as slope protection stone within the limits shown or otherwise directed. Either reasonably well-graded boulders or quarried rock may be used if conforming to the applicable requirements of the Subparagraph: Quality above, as permitted, weighing approximately 200 pounds, to the maximum size stone permitted weighing approximately 2,000 pounds as required. A maximum of 5 percent by weight of chips and fragments resulting from handling may be placed in the finished section.

5.1.10.2.2 Placement. Core stone shall be placed prior to the placement of cover stone, using a method that will produce a reasonably well-graded mass of rock with the minimum practicable percentage of voids and shall be constructed to the lines shown. The larger stones shall be well distributed and the entire mass of stones in their final position shall be roughly graded to conform to the gradation specified above. The finished work shall be free from objectionable pockets of small stones and clusters of larger stones. The desired distribution of the various sizes of stones throughout the mass shall be obtained by selective loading of material at the quarry or other source, by controlled dumping of successive loads during final placing, or by other methods of placement, which will produce the specified results. Placement of core stone in a jetty shall not proceed more than 100 feet in advance of being covered with cover stone, unless specifically authorized.

5.1.10.3 COVER STONE.

5.1.10.3.1 General. Cover stone shall be placed within the limits shown or otherwise directed. The stone shall conform to the applicable requirements of the Subparagraph: Quality above, as to quality and physical properties. The cover stone shall be generally rectangular in shape and the least dimension of any stone shall be not less than one-third (1/3) its greatest dimension. The thickness and sizes of the cover stone shall be as shown.

5.1.10.3.2 Placement. Cover stone shall be placed on the top and slopes of the jetties by equipment suitable for handling materials of the sizes specified. The various sizes of cover stone shall be so distributed that it will produce a uniform well-graded mass. Adjacent stones shall be selected as to size and shape and carefully keyed-in to provide a compact and integrated surface course with the smaller stone filling the space between larger stones to leave a minimum of voids. A tolerance of plus or minus 12 inches from the lines and grades shown will be permitted in the finished surface of the cover stone on the jetty, except that the extremes of this tolerance will not be allowed in the exposed surface of adjacent stones. The cover stones shall be placed on the crown of the jetty so that the average final crown elevation will be as near as practicable to the design template.

5.1.10.3.3 Filler Stone shall be used to fill the voids between the stone protection. Filling shall be to the lines and grades indicated. When placement is below the water surface, the material may be placed by any method elected by the Contractor subject to approval.