

SECTION 850—ROCK LINING

850.1 DESCRIPTION—This work is construction of rock lining of the class indicated.

850.2 MATERIAL—

(a) Rock.

1. General. Acceptable quality; sound; free from structural defects and foreign substances, such as soil, shale, and organic materials. Unless the rock comes from material providing an approved Type A aggregate, submit samples to the MTD for petrographic examination for durability before use.

Use rock conforming to the following requirements:

- No shale seams.
- Hard and angular shaped rock with neither width nor thickness less than one-third its length.
- Minimum specific gravity of 2.5, as determined according to AASHTO T 85, bulk-saturated, but surface-dry basis.
- Each load of rock well-graded, from the smallest to the largest size.

2. Size and Gradation.

Class, Size No. (NCSA)	Percent Passing (Square Openings)					
	R-8**	R-7**	R-6	R-5	R-4	R-3
Rock Size, millimeters (inches)						
1070 (42)	100*					
760 (30)		100*				
610 (24)	15-50		100*			
460 (18)		15-50		100*		
380 (15)	0-15					
300 (12)		0-15	15-50		100*	
230 (9)				15-50		
150 (6)			0-15		15-50	100*
100 (4)				0-15		
75 (3)					0-15	15-50
50 (2)						0-15
Nominal Placement Thickness, millimeters (inches)	1220 (48)	915 (36)	800 (30)	610 (24)	460 (18)	305 (12)

* Maximum allowable rock size.

** Use Class 2, Type A geotextile

Acceptance of gradation will be based upon visual inspection and certification. Provide two samples of rock, at least 4.5 tonnes (5 tons) each or each one-half the total project quantity, whichever is smaller. Provide one sample in place at the construction site and provide the other sample at the quarry. The construction site sample may be incorporated into the work. These samples will be used as a reference for judging the size and gradation of the rock supplied and placed. Certify as to gradation, as specified in [Section 106.03\(b\)3](#).

(b) Geotextiles. Class 2, for the type required. [Section 735](#).

850.3 CONSTRUCTION—As shown on the [Standard Drawings](#) and as follows:

Prepare the area required for placing the geotextile and rock.

This preparation may include, but not be limited to excavating, removing unsuitable material, backfilling, placing embankment, and clearing and grubbing, as specified in [Section 201.3](#). Place the geotextiles, as specified in [Section 212.3\(c\)](#).

Carefully place the rock on the geotextiles to produce an even distribution of pieces, with a minimum of voids and without tearing the geotextile. Place the full course thickness in one operation in a manner to prevent segregation and to avoid displacement of the underlying material. Do not place rock in layers, by dumping into chutes, or by similar methods likely to cause segregation or geotextile damage. Rearrange individual rocks, if necessary, to ensure uniform distribution.

850.4 MEASUREMENT AND PAYMENT—

(a) **Rock.** Square Meter (Square Yard) or Cubic Meter (Cubic Yard)

(b) **Geotextile.** Square Meter (Square Yard)
[Section 212.4\(b\)](#).

(c) **Excavation.** Cubic Meter (Cubic Yard)
[Section 203.4](#) or [204.4](#), for the class indicated.