



Designation: D6825 – 21

Standard Guide for Placement of Riprap Revetments¹

This standard is issued under the fixed designation D6825; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope*

1.1 This guide covers methods to place riprap with associated filters for erosion control purposes. This guide does not recommend a specific course of action because of the diverse methods and procedures that are capable of producing a functional product. This guide identifies favorable riprap qualities and recommends practices best suited to obtain those qualities. The production of rock, use of recycled materials, rock with cut dimensions, and engineering and revetment design are beyond the scope of this guide. Special forms of riprap, including hand placed riprap, grouted riprap, or keyed (plated) riprap that is tamped into place to smooth the surface, are also beyond the scope of this guide.

1.2 This guide offers an organized collection of information or a series of options and does not recommend a specific course of action. This document cannot replace education or experience and should be used in conjunction with professional judgment. Not all aspects of this guide may be applicable in all circumstances. This ASTM standard is not intended to represent or replace the standard of care by which the adequacy of a given professional service must be judged, nor should this document be applied without consideration of a project's many unique aspects. The word "Standard" in the title of this document means only that the document has been developed and approved through the ASTM consensus process.

1.3 *Units*—The values stated in SI units are to be regarded as standard. The values given in parentheses after SI units are provided for information only and are not considered standard.

1.4 *This standard may involve hazardous operations and equipment. This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.5 *This international standard was developed in accordance with internationally recognized principles on standard-*

ization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

2. Referenced Documents

2.1 ASTM Standards:²

C33/C33M Specification for Concrete Aggregates

C136/C136M Test Method for Sieve Analysis of Fine and Coarse Aggregates

D75/D75M Practice for Sampling Aggregates

D653 Terminology Relating to Soil, Rock, and Contained Fluids

D4992 Practice for Evaluation of Rock to be Used for Erosion Control

D5519 Test Methods for Particle Size Analysis of Natural and Man-Made Riprap Materials

D6092 Practice for Specifying Standard Sizes of Stone for Erosion Control

2.2 AASHTO Standard:³

M 288 Geotextile Specification for Highway Applications

3. Terminology

3.1 *Definitions*—For definitions of common technical terms used in this standard, refer to Terminology D653.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *bedding, n*—an aggregate mixture placed below the riprap.

3.2.1.1 *Discussion*—Bedding material is usually sand and gravel sized, but may include cobble sized material. If placed without a geotextile, the bedding material may be used as a filter. If placed in conjunction with a geotextile, the bedding may provide a cushion for protection of the geotextile during riprap placement and provide confinement of the geotextile. It is possible to have more than one bedding layer.

¹ This guide is under the jurisdiction of ASTM Committee D18 on Soil and Rock and is the direct responsibility of Subcommittee D18.17 on Rock for Erosion Control.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from American Association of State Highway and Transportation Officials (AASHTO), 444 N. Capitol St., NW, Suite 249, Washington, DC 20001, <http://www.transportation.org>.

*A Summary of Changes section appears at the end of this standard