



Designation: D6711 – 15^{ε1}

Standard Practice for Specifying Rock to Fill Gabions, Revet Mattresses, and Gabion Mattresses¹

This standard is issued under the fixed designation D6711; 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.

^{ε1} NOTE—Editorially corrected units of measurement statement in June 2021.

1. Scope

1.1 This practice covers the sizes and quality of rock to fill gabions and mattresses. The term mattress as used in this standard shall include the terminology of gabion mattresses and revet mattresses used in Specifications A974 and A975.

1.2 This practice does not cover the sizes and quality of rock for other erosion control uses such as riprap or drainage.

1.3 This practice does not cover the material properties or construction of gabions or mattresses.

1.4 *Units*—The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.5 *This practice offers a set of instructions for performing one or more specific operations. This document cannot replace professional judgment. Not all aspects of this practice 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 approved through the ASTM consensus process.*

1.6 *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.*

1.7 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recom-*

mendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

2. Referenced Documents

2.1 *ASTM Standards:*²

A974 Specification for Welded Wire Fabric Gabions and Gabion Mattresses (Metallic-Coated or Polyvinyl Chloride (PVC) Coated)

A975 Specification for Double-Twisted Hexagonal Mesh Gabions and Revet Mattresses (Metallic-Coated Steel Wire or Metallic-Coated Steel Wire With Poly(Vinyl Chloride) (PVC) Coating)

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

3. Terminology

3.1 *gabion, n—in erosion control*, a wire mesh container of variable size and interconnected with other similar containers. It is filled with rock to form flexible, permeable, monolithic structures.

3.2 *mattress, n—in erosion control*, a wire mesh container uniformly partitioned into internal cells with relatively small height in relation to other dimensions. Mattresses have smaller mesh openings than the mesh used for gabions.

4. Summary of Practice

4.1 The designer shall establish the suitable sizes, weight, and quality of rock for project use, and examine sources to ensure that the required rock is available.

4.2 Rock shall be delivered to the work site in a manner to minimize its reduction in sizes (breakdown) during the handling of the rock, and then placed and secured within the assembled and interconnected gabion or mattress.

¹ This practice is under the jurisdiction of ASTM Committee D18 on Soil and Rock and is the direct responsibility of Subcommittee D18.25 on Erosion and Sediment Control Technology.

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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.