



Designation: ~~F1081 – 09 (Reapproved 2015)~~ **F1081 – 09 (Reapproved 2021)** American National Standard

## Standard Specification for Competition Wrestling Mats<sup>1</sup>

This standard is issued under the fixed designation F1081; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This specification covers competition wrestling mats used at the high school and college levels. All mat constructions are included, except felt-core mats enclosed in sewn covers. The intended use of this standard is for the qualification of construction designs.

NOTE 1—The known constructions, as of the issuance of this specification are: (1) closed-cell foam cores with polyvinyl chloride (PVC) or PVC copolymer coatings, or both, which are integral parts of the mat; (2) closed-cell foam cores with attached fabric cover; (3) foam cores, either open- or closed-cell enclosed in sewn, loose covers, and (4) molded open-cell PVC foam with a dense skin on one surface which is an integral part of the mat.

NOTE 2—There is no known ISO equivalent to this standard.

1.2 This specification covers mats used in the two major styles of wrestling: U.S. collegiate or high school, and international free style.

1.3 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.

1.4 *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. See Note 6 for specific hazards statements.*

1.5 *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 Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

### 2. Referenced Documents

#### 2.1 ASTM Standards:<sup>2</sup>

D412 Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension

D1056 Specification for Flexible Cellular Materials—Sponge or Expanded Rubber

D1682 Test Method for Breaking Load and Elongation of Textile Fabric (Withdrawn 1992)<sup>3</sup>

F355 Test Method for Impact Attenuation of Playing Surface Systems, Other Protective Sport Systems, and Materials Used for Athletics, Recreation and Play

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee F08 on Sports Equipment, Playing Surfaces, and Facilities and is the direct responsibility of Subcommittee F08.12 on Gymnastics and Wrestling Equipment.

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<sup>2</sup> 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.

<sup>3</sup> The last approved version of this historical standard is referenced on www.astm.org.

2.2 National Collegiate Athletic Association Document:<sup>4</sup>

NCAA Official Wrestling Rules

2.3 U.S. Wrestling Federation Document:<sup>5</sup>

International Wrestling Rules, Freestyle, and Greco-Roman

2.4 National Federation of State High School Associations Document:<sup>6</sup>

Official High School Wrestling Rules

### 3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *coating*—Polyvinyl chloride (PVC) or PVC copolymer, or both, or other suitable polymeric materials.

3.1.2 *cure*—Evaporation of solvents from coating and coated foam mats only.

### 4. Classification

4.1 Classify mats in accordance with the style of wrestling being performed.

4.2 The classifications are:

4.2.1 *Type I*—U.S. collegiate or high school style wrestling.

4.2.2 *Type II*—International free style wrestling.

### 5. Significance and Use

5.1 The mats shall be constructed to yield the values listed in **Table 1** throughout the mat area under the conditions of the manufacturer’s warranty.

5.2 Special requirements for the mats shall be subject to purchase agreements. Special requirements shall never reduce any of the basic requirements listed in this standard.

5.3 Good manufacturing practices shall be used in the construction and inspection of the mats.

### 6. Performance Requirements

6.1 The requirements listed in this section and in **Table 1** are minimal for new and reconditioned mats.

6.2 *Shock Absorption*:

6.2.1 Determine the shock absorption properties of the mats in accordance with Procedure A of Test Method **F355**.

6.2.2 The maximum  $g_{\max}$  values for the mats shall be as listed in **Table 1**.

**TABLE 1 Performance and Physical Property Values for Wrestling Mats**

Property	Section	Test Method	New	Recondi- tioned	Used- Rejection Level
$G_{\max}$ at $167 \pm 8.6$ in./s ( $423 \pm 22$ cm/s), max	13.2	<b>F355</b>	100	100	...
Thickness, in. (mm), min	13.3	<b>D1056</b>	25 (1.00)	25 (1.00)	20 (0.80)

<sup>4</sup> NCAA, Shawnee Mission, KN 66222.

<sup>5</sup> US Wrestling Federation, 405 West Hall of Fame Ave., Stillwater, OK 74074.

<sup>6</sup> National Federation of State High School Associations, P.O. Box 20626, Kansas City, MO 64195.