Designation: F2266 – 03 (Reapproved 2015)

Standard Specification for Masses Used in Testing Rescue Systems and Components[1]

This standard is issued under the fixed designation F2266; 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 specification defines the masses to be used when testing rescue systems and components.

1.2 The masses represent personnel and equipment that may be attached to a rescue system or components. However, the masses do not represent any particular type or kind of rescuer or equipment.

1.2.1 The masses chosen have been used in the past or are in current use in testing of rescue systems and components. Limiting testing to the masses listed in this specification allows meaningful comparisons between past, current, and future test results.

1.3 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.4 The user of this specification shall determine which mass(es) represent(s) the personnel and equipment attached to the system or component under test.

1.5 For the purposes of this specification, mass and weight are synonymous when the object(s) representing the mass(es) are weighed in air anywhere on Earth.

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 and health practices and determine the applicability of regulatory requirements prior to use.*

2. Referenced Documents

2.1 *National Fire Protection Association (NFPA) Standard:*[2]

NFPA 1983 Standard for Fire Service Life Safety Rope and System Components

2.2 *American National Standards Institute (ANSI) Standard:*[3]

ANSI Z359.1 Safety Requirements for Personal Fall Arrest Systems, Sub-Systems and Components

2.3 *European Committee for Standardization (CEN) Standard:*[4]

EN1891 Personal Protective Equipment for the Prevention of Falls from a Height—Low Stretch Kernmantel Ropes

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *rescue system, n*—an assembly of ropes, cables, lines, and other components that may be used to raise, lower, suspend, support, or traverse persons or equipment during a rescue.

4. Classification

4.1 *Type I*—80 ± 1 kg.

4.1.1 The source of this mass is the Union Internationale des Associations d'Alpinisme (UIAA) and is the mass used in its mountaineering equipment standards.[5]

4.2 *Type II*—100 ± 1 kg.

4.2.1 The sources of this mass are:

4.2.1.1 ANSI standard Z359.1.

4.2.1.2 CEN standard EN1891.

4.3 *Type III*—136 ± 1 kg.

4.3.1 The source of this mass is NFPA standard NFPA 1983.

4.4 *Type IV*—200 kg ± 1 %.

4.4.1 The source of this mass is testing performed by the British Columbia Council of Technical Rescue (BCCTR).[6]

4.5 *Type V*—280 kg ± 1 %.

4.5.1 The source of this mass is testing performed by the BCCTR. It is a metric conversion, rounded up, of the 272 kg (600 lb) mass originally developed by the NFPA.

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[1] This specification is under the jurisdiction of ASTM Committee F32 on Search and Rescue and is the direct responsibility of Subcommittee F32.01 on Equipment, Testing, and Maintenance.

Current edition approved Dec. 1, 2015. Published December 2015. Originally approved in 2003. Last previous edition approved in 2008 as F2266 – 03 (2008)ε1. DOI: 10.1520/F2266-03R15.

[2] Available from National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02169-7471, http://www.nfpa.org.

[3] Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, http://www.ansi.org.

[4] Available from European Committee for Standardization, 36 rue de Stassart, B-1050, Brussels, Belgium, http://www.cenorm.be.

[5] Available from the Union Internationale des Associations d'Alpinisme, Postfach, CH-3000, Bern 23, Switzerland, http://www.uiaa.ch.

[6] Reports which include BCCTR test information are available from Rigging for Rescue, P.O. Box 745, 324 5th St., Ouray, CO 81427, http://www.riggingforrescue.com.

5. Keywords

5.1 component; mass; rescue; system; test

APPENDIX

(Nonmandatory Information)

X1. BACKGROUND

X1.1 The listed masses have had descriptive terms applied to them by the originators or users to denote what the mass represents. However, these descriptors have not been applied consistently between various users and originators. For this reason, the mass value itself or the ASTM classification shall be used when referring to the test masses.

X1.2 To assist a user in determining what the test masses were intended to represent, for reference purposes only, the descriptors follow. Regardless of the descriptor, the user must determine the proper mass to represent the test load.

X1.2.1 *80 kg*—A single climber (recreational or sport); the rescue subject.

X1.2.2 *100 kg*—A single rescuer; the rescue subject and medical equipment (for example, subject in a rescue litter).

X1.2.3 *136 kg*—1 person load (a single fully encumbered firefighter).

X1.2.4 *200 kg*—A rescue load; 2 rescuers.

X1.2.5 *280 kg*—3 person (rescue) load; 2 person load (2 fully encumbered firefighters) (272 kg).