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Standard Specification for Masses Used in Testing Rescue Systems and Components¹

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^{ε1} NOTE—Documents in Section 2 were updated editorially in April 2024.

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

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.

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2. Referenced Documents

2.1 *National Fire Protection Association (NFPA) Standard:² NFPA 2500 (1983) Standard for Operations and Training for Technical Search and Rescue Incidents and Life Safety Rope and Equipment for Emergency Services*

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

ANSI/ASSP Z359.1 Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components

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

EN 1891 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/ASSP standard Z359.1.

4.2.1.2 CEN standard EN 1891.

4.3 *Type III*—136 ± 1 kg.

4.3.1 The source of this mass is NFPA 2500 (1983).

4.4 *Type IV*—200 kg ± 1 %.

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.uiiaa.ch>.