



Designation: F887 – 23

# Standard Specifications for Personal Climbing Equipment<sup>1</sup>

This standard is issued under the fixed designation F887; 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\*

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| Scope                                                                                 | 1                 | Guarantee and Rejection                                                                                                                                                                                                                                                                                                           | 27                |
| Referenced Documents                                                                  | 2                 | Keywords                                                                                                                                                                                                                                                                                                                          | 28                |
| Terminology                                                                           | 3                 | 1.1 This standard covers the specifications and qualification testing of the following:                                                                                                                                                                                                                                           |                   |
| Significance and Use                                                                  | 4                 | Climbers,                                                                                                                                                                                                                                                                                                                         |                   |
| <b>Pole and Tree Climbers</b>                                                         |                   | Climber straps,                                                                                                                                                                                                                                                                                                                   |                   |
| Classification                                                                        | 5                 | Climber Pads,                                                                                                                                                                                                                                                                                                                     |                   |
| Ordering Information                                                                  | 6                 | Climber Footplates,                                                                                                                                                                                                                                                                                                               |                   |
| Pole and Tree Climbers                                                                | 7                 | Body Belts,                                                                                                                                                                                                                                                                                                                       |                   |
| Climber Gaffs                                                                         | 8                 | Work Positioning Devices with Locking Snaphooks/Carabiners,                                                                                                                                                                                                                                                                       |                   |
| Climber Straps                                                                        | 9                 | Wood Pole Fall Restriction Devices (WPFRD),                                                                                                                                                                                                                                                                                       |                   |
| Climber Pads                                                                          | 10                | Arborist Saddle,                                                                                                                                                                                                                                                                                                                  |                   |
| Climber Footplates                                                                    | 11                | Harnesses,                                                                                                                                                                                                                                                                                                                        |                   |
| <b>Body Belts, Positioning Devices and Wood Pole Fall Restriction Devices (WPFRD)</b> |                   | Energy Absorbing Lanyards.                                                                                                                                                                                                                                                                                                        |                   |
| Classification                                                                        | 12                | These devices are used by workers in the climbing of poles, trees, towers, and other structures. Minimum performance criteria for harnesses and energy absorbing lanyards in arresting a fall after exposure to electric arcs are included for workers who may be exposed to thermal hazards of momentary electric arcs or flame. |                   |
| Ordering Information                                                                  | 13                | 1.2 Equipment may fall within one of the following categories:                                                                                                                                                                                                                                                                    |                   |
| Two Dee Body Belts, Auxiliary Positioning Belts, and Four Dee Body Belts              | 14                | 1.2.1 <i>Fall (Travel) Restraint</i> —Prevents a user from reaching a fall hazard (allow 0 fall distance).                                                                                                                                                                                                                        |                   |
| Two Dee Body Belts                                                                    | 14.1              | 1.2.2 <i>Work Positioning</i> —Allows a 2 ft maximum free fall distance.                                                                                                                                                                                                                                                          |                   |
| Auxiliary Positioning Belts and Four Dee Body Belts                                   | 14.2              | 1.2.3 <i>Fall Arrest</i> —Allows a 6 ft maximum free fall distance with a maximum arrest force of 1800 lb.                                                                                                                                                                                                                        |                   |
| Positioning Devices                                                                   | 15                | NOTE 1—Under certain conditions and with the use of equipment designed for such conditions, a 12-ft free-fall distance with a maximum arrest force of 1800 lb is allowed.                                                                                                                                                         |                   |
| Wood Pole Fall Restriction Device (WPFRD)                                             | 16                | 1.2.4 <i>Suspension</i> —Allows 0 free-fall distance while supporting the user's weight.                                                                                                                                                                                                                                          |                   |
| Arborist Saddle                                                                       | 17                | 1.2.5 <i>Fall Restriction</i> —to prevent or limit free fall from a work position or while ascending/descending a wood pole.                                                                                                                                                                                                      |                   |
| <b>Harnesses</b>                                                                      |                   | 1.3 Three types of climbers, (Types A, B, and C) and two types of climber straps, Types (A and B) are covered.                                                                                                                                                                                                                    |                   |
| Classification                                                                        | 18                | 1.4 Two types of body belts, (Types A and B) are covered.                                                                                                                                                                                                                                                                         |                   |
| Ordering Information                                                                  | 18.2              |                                                                                                                                                                                                                                                                                                                                   |                   |
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| <b>Energy Absorbing Lanyards</b>                                                      |                   |                                                                                                                                                                                                                                                                                                                                   |                   |
| Classification                                                                        | 19                |                                                                                                                                                                                                                                                                                                                                   |                   |
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| Body Belts, Four Dee Body Belts, and Auxiliary Positioning Belts                      | 25.1              |                                                                                                                                                                                                                                                                                                                                   |                   |
| Positioning Devices                                                                   | 25.2              |                                                                                                                                                                                                                                                                                                                                   |                   |
| WPFRD                                                                                 | 25.3              |                                                                                                                                                                                                                                                                                                                                   |                   |
| Arborist Saddle                                                                       | 25.4              |                                                                                                                                                                                                                                                                                                                                   |                   |
| Harness                                                                               | 25.5              |                                                                                                                                                                                                                                                                                                                                   |                   |
| Energy Absorbers                                                                      | 25.6              |                                                                                                                                                                                                                                                                                                                                   |                   |
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<sup>1</sup> This standard is under the jurisdiction of ASTM Committee F18 on Electrical Protective Equipment for Workers and are the direct responsibility of Subcommittee F18.15 on Worker Personal Equipment.

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

1.5 Eight types of work positioning devices: three positioning straps, (Types A, B, and C), three adjustable-positioning lanyards, (Types A, B and C) and two nonadjustable positioning lanyards, (Types A and B) are covered.

1.6 Two types of WPFRD, (Types A and AB) are covered.

1.7 Arborist saddle, (Type A) Work Positioning and Suspension are covered.

1.8 Two types of harnesses, (Types A and B) are covered.

1.9 Two types of energy absorbing lanyards, (Types A and B) are covered.

1.10 The values stated in United States customary 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.

1.11 The following safety hazards caveat pertains only to the test method portions, 9.2, 10.3, 11.2, 14.1.4, 15.3, 15.4, 16.2, 17.2, 18.4, 21.2, 22, 23, and 25 of this standard: *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.*

1.12 *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>

**F819** Terminology Relating to Electrical Protective Equipment for Workers

**F1959/F1959M** Test Method for Determining the Arc Rating of Materials for Clothing

2.2 *ANSI Standard*:<sup>3</sup>

**ANSI 05.1** Wood Poles – Specification and Dimensions

2.3 *ANSI/ASSE/ASSP Standards*:<sup>4</sup>

**Z359.0-2018** Definitions and Nomenclature Used for Fall Protection and Fall Arrest

**Z359.3-2019** Safety Requirements for Lanyards and Positioning Lanyards

**Z359.11-2021** Safety Requirements for Full Body Harnesses

**Z359.12-2019** Connecting Components for Personal Fall Arrest Systems

**Z359.13-2013** Personal Energy Absorbers and Energy Absorbing Lanyards

**Z359.14-2021** Safety Requirements for Self-Retracting Devices for Personal Fall Arrest and Rescue Systems

2.4 *CSA Standard*:<sup>5</sup>

**CAN/CSA 015** Wood Utility Poles and Reinforcing Stubs

## 3. Terminology

3.1 *Definitions*:

3.1.1 *adjustable positioning lanyard (APL)*, *n*—a component of a work positioning or fall restriction system (may be used for applications such as transitioning past an obstruction during ascent or descent).

3.1.2 *afterflame*, *n*—persistent flaming of a material after the ignition source has been removed.

3.1.2.1 *Discussion*—*In arc testing*, a visible flaming on or near a test specimen which persists after the arc exposure has ended. The afterflame ceases when flaming is no longer visible.

3.1.3 *afterflame time*, *n*—Refer to Terminology **F819** for definition.

3.1.3.1 *Discussion*—*In arc testing*, the length of time, in seconds, for which a specimen continues to exhibit a visible flaming as determined by a time display video recording of the specimen during arc testing.

3.1.4 *arborist saddle*, *n*—an arrangement of straps, fittings and buckles or other elements in the form of a waist belt with a low attachment suitably arranged to support the body in a sitting position. The saddle may or may not include individual leg straps or a rigid batten seat section.

3.1.5 *arc gap*, *n*—Refer to Terminology **F819** for definition.

3.1.6 *attachment element*, *n*—part or parts of an assembly intended for the load bearing connection of other components.

3.1.7 *attachment point*, *n*—specific connecting point on an assembly for load bearing connection to other components, consisting of one or more attachment elements.

3.1.8 *auxiliary positioning belt*, *n*—a modular device made up of straps, pads, buckles, and attachment points for fastening to a waist body belt.

3.1.8.1 *Discussion*—An auxiliary positioning belt is used for attachment to a two ring body belt and intended for work positioning or fall restriction while transitioning past obstructions during an ascent or descent and for support for a two ring body belt.

3.1.9 *billet*, *n*—the free (buckle hole) end of a belt or strap as opposed to the buckle end, which is designed to pass through the buckle for closing.

3.1.10 *body belt (two or four dee)*, *n*—an element of a work positioning system with two or four connection points consisting of straps, pads, buckles, and rings that allow a user to work freely with both hands (see **Fig. 1**).

3.1.10.1 *Discussion*—The width of the back section of a body belt is directly related to and can vary dependent on the number of dee rings that will be accommodated, for example, two dee rings, four dee rings, or more.

<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto: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> Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

<sup>4</sup> Available from the American National Standards Institute, ANSI, 25 W. 43rd St., 4th Floor, New York, NY 10036.

<sup>5</sup> Available from Canadian Standards Association (CSA), 178 Rexdale Blvd., Toronto, ON M9W 1R3, Canada, <http://www.csagroup.org>.