



Standard Specification for Climbing and Mountaineering Carabiners¹

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1. Scope

1.1 This specification covers six mechanical tests and the minimum performance requirements for carabiners designed specifically for the sports of climbing and mountaineering.

1.2 Two different types of carabiners are defined in this standard, non-locking carabiners and locking carabiners.

1.3 Tests contained herein are destructive in nature. Carabiners subjected to any of these tests shall not be used in any way after testing except in evaluating the results of such testing.

1.4 This specification does not imply approval of any method of use of climbing and mountaineering carabiners. In addition, the test load values contained herein are not to be interpreted as the forces which a climbing and mountaineering carabiner may be subjected to, or expected to sustain in actual field use.

1.5 This specification is limited to carabiners made of steel or aluminum alloys only.

1.6 The values stated in SI units are to be regarded as the standard.

2. Referenced Documents

2.1 *ASTM Standards*:²

E4 Practices for Force Verification of Testing Machines
F1772 Specification for Harnesses for Rescue, Safety, and Sport Activities

2.2 *Other Standard*:

EN 566:1994 Slings [preliminary]

3. Terminology

3.1 *Definitions*—Terms defined in Terminology F1772 shall be applicable to this specification.

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 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.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *carabiner, n*—a self-closing gated, load-bearing, connective device. Some carabiner models may have *cocking* or *blocking* devices, that when activated, override the self-closing features.

3.2.2 *durably affixed, adj*—the manner of attaching information directly to the product which endures for the life of the product.

3.2.3 *failure, n*—an arbitrary point beyond which a material or product ceases to be functionally capable of its intended use. In this application, the point at which some part of the carabiner physically breaks or distorts to an extent that the test members are released.

3.2.4 *locking carabiner, n*—a carabiner with a mechanism that reduces the possibility of a gate being opened inadvertently. A locking mechanism requires at least two different consecutive manual actions to open the gate.

3.2.5 *nonlocking carabiner, n*—any carabiner that does not have a mechanism that reduces the possibility of a gate being opened inadvertently.

3.2.6 *normal body weight, n*—a standardized weight that represents a *typical* climber, defined as Function Test Force No. 1.

3.2.7 *ultimate strength, n*—the maximum force sustained by a carabiner during an ultimate force test, prior to its failure.

4. Requirements

4.1 *Product information shall include the following items:*

4.1.1 *Manufacturer's or Distributor's Name or Logo*—A clear indication as to who is responsible for the primary manufacture or distribution, or both, of the product.

4.1.2 *Major Axis Gate Closed Ultimate Strength*—A clear indication as to the major axis gate closed strength by either symbol or pictorial representation.

4.1.3 *Minor Axis Gate Closed Ultimate Strength*—A clear indication as to the minor axis gate closed ultimate strength by either symbol or pictorial representation.

4.1.4 *Major Axis Gate Open Ultimate Strength*—A clear indication as to the major axis gate open ultimate strength by either symbol or pictorial representation.

4.1.5 *Lot Number*—A manufacturer's or distributor's lot number.