Designation: F3249 – 17

Standard Specification for Treestands, Climbing Sticks, and Tripod or Tower Stands[1]

This standard is issued under the fixed designation F3249; 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 covers requirements for treestands, climbing sticks, and tripod/tower stands that are used for hunting, photographing, or general observation. Furthermore, this specification establishes minimum warning and package labeling, instructional content, safety device requirements, and physical testing parameters. This is a performance based specification and is not intended to restrict design.

1.2 Partial utilization of this specification is prohibited. Any statement of compliance with this specification shall be a certification that the product tested meets all of the requirements of the specification in its entirety. A product that fails to meet any one of the requirements of this specification is considered to have failed this specification and shall not be sold with any indication that it meets parts of the specification.

1.3 The values stated in inch-pound units are to be regarded as standard. No other units of measurement are included in this 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 and health practices and determine the applicability of regulatory limitations prior to use.*

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:*[2]

F1749 Specification for Fitness Equipment and Fitness Facility Safety Signage and Labels

F2123 Practice for Treestand Instructions

F2125 Test Method for Treestand Static Stability and Adherence

F2126 Test Method for Treestand Static Load Capacity

F2128 Test Method for Treestand Repetitive Loading Capability

F2275 Practice for Treestand Manufacturer Quality Assurance Program

F2337 Test Method for Treestand Fall Arrest System

F2531 Test Method for Load Capacity of Treestand Seats

3. Terminology

3.1 *Definitions:*

3.1.1 *backbar, n*—adjustable component of a climbing treestand that engages the tree to provide support. The backbar may be rigid or flexible.

3.1.2 *climbing belt, n*—a strap/belt or similar device which is fastened about the person in a manner so as to contain the torso and stabilize the user's horizontal load while either working from a vertical position to attach treestands, climbing devices, and so forth, or during ascent/descent of tree or ladder. A FBH may be constructed to additionally serve this function.

3.1.3 *corner stability, n*—the ability of a treestand to resist eccentricity, twisting, or sudden movement when load is applied separately to each of the four corners of a foot platform.

3.1.4 *fall arrest system, n*—system that is assembled for the purpose of arresting an accidental fall of its user. A FAS consists of a full body harness, lanyard, anchorage means, connecting hardware, climbing belt (for fixed position stands), and suspension relief device.

3.1.5 *foot platform, n*—horizontal structural area of a treestand on which the user stands and/or places his feet.

3.1.6 *full body harness (FBH), n*—component with a design of straps that is fastened about the person in a manner so as to contain the torso and distribute the fall arrest forces over at least the upper thighs, pelvis, chest, and shoulders, with means for attaching it to other components or subsystems.

3.1.7 *integral seat, n*—a seat which is attached to the footplatform and is necessary to the completeness of the product.

[1] This specification is under the jurisdiction of ASTM Committee F08 on Sports Equipment, Playing Surfaces, and Facilities and is the direct responsibility of Subcommittee F08.18 on Treestands.

Current edition approved June 15, 2017. Published July 2017. DOI: 10.1520/F3249-17.

[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.

3.1.8 *multiple user rated capacity (MUR), n*—the maximum load capacity, not to be exceeded, of a treestand, tripod o tower stand as determined by the manufacturer for simultaneous multiple users.

3.1.9 *non-integral seat, n*—a seat which is independent of the foot platform and can be slid forward or backwards during normal use. An example would be a mesh, sling, or similar material.

3.1.10 *side stability, n*—the ability of a climbing treestand (top section – Type II/III) to resist eccentricity, twisting, or sudden movement when load is applied to the left and right front corners of the section. In terms of tripod and tower stands the ability to resist toppling when the center edge spanning each of the supports is loaded.

3.1.11 *single user rated capacity (SUR), n*—the maximum load capacity, not to be exceeded, of a treestand, climbing stick, tripod, or tower stand as determined by the manufacturer for a single user.

3.1.12 *suspension relief device, n*—device to allow relief of a person's weight on the lower extremities if suspended in a harness or allow the user to descend to the ground. The device is to help maintain circulation in the legs and help prevent suspension trauma (blood pooling).

3.1.13 *treestand, n*—device designed to be affixed to a tree so as to permit an individual to sit or stand thereon for the purpose of attaining an elevated position from which to observe, photograph or hunt.

3.1.14 *user, n*—the consumer or end user of the manufactured product.

4. Classification

4.1 *Ladder treestand*—A treestand that is secured to the tree at the elevation where the platform is located. The ladder treestand has steps that are used to reach the platform or hunting position. The ladder or steps is an integral part of the product.

4.2 *Non-climbing, fixed position or hang-on treestand*—A treestand that is secured to the tree at the elevation where it is used. (The user usually ascends the tree by some means and then lifts the treestand to the desired position and secures it for use.)

4.3 *Climbing stick – continuous*—A device or aide to assist climbing a tree primarily to a fixed position treestand. A continuous interconnected ladder that is secured to the tree and allows the user to support his weight and climb to the desired height on the tree.

4.4 *Climbing stick – sectional*—A device or aide to assist climbing a tree primarily to a fixed position treestand. Consists of multiple independent ladder sections that are secured to the tree and allow the user to support his weight and climb to the desired height on the tree.

4.5 *Tripod or tower stand*—Tripod or tower stand is constructed to be self-supporting and is not required to be secured to a tree.

4.6 *Climbing treestand – (hand climber) - Type I*—A treestand that provides both the means to ascend and descend the tree and allow the user to remain at a desired elevation. It consists of a top section and a foot platform, which are independent of one another. The user's arms are used to support and transfer their weight to the top section when ascending or descending.

4.7 *Climbing treestand – (sit/stand) - Type II*—A treestand that provides both the means to ascend and descend the tree and allow the user to remain at a desired elevation. It consists of a top section and a foot platform, which are independent of one another. The user sits on the extended structure of the top section, opposite the seat, when ascending or descending.

4.8 *Climbing treestand – (sit/stand) - Type III*—A treestand that provides both the means to ascend and descend the tree and allow the user to remain at a desired elevation. It consists of a top section and a foot platform, which are independent of one another. The user sits on the seat of the top section when ascending or descending.

5. Materials and Manufacture

5.1 The manufacturer shall have a quality assurance program in place that meets the requirements of Practice F2275.

6. General Requirements

6.1 *Instructions*—User instructions shall be supplied with each individual unit and shall be in accordance with Practice F2123. Instructions shall contain detailed information on the proper set up, use, and safety precautions for the unit. In addition to model specific written instructions a non-model specific Digital Versatile Disc (DVD) or other digital media equivalent shall be provided to the user with each treestand.The intent of which is to address the topics outlined in Practice F2123 as well as provide visual instruction for proper use and safety precautions when using treestands.

6.2 *Fall Arrest System*—A fall arrest system that meets Test Method F2337 shall be provided for each user as standard equipment with a Ladder, Fixed Position (Hang-on), or Climbing Treestand. The fall arrest system capacity shall not be less than the single user rated load capacity of the treestand. For multiple occupancy Ladder treestands a fall arrest system would be provided for each user.

6.2.1 Fall arrest systems for Fixed Position (Hang-on) treestands shall include a climbing belt.

6.2.2 Instructions on the proper use, warnings, and securing the harness to the tree shall be provided either separately or as part of the treestand instructions.

6.3 *Auxiliary Safety Devices:*

6.3.1 Ladder treestands shall include means to stabilize the ladder from pivoting about the ladder axis and secure it to the tree prior to use. Crisscrossing rope, straps, or other methods to secure the ladder treestand to the tree to prevent pivoting prior to climbing are examples of such means. Instructions shall include proper installation and use.

6.3.2 Ladder treestands, tripod/tower stands, and continuous climbing sticks shall include means to secure all ladder

sections together such that inadvertent separation of the sections during use cannot occur. The use of pins, bolts, clips, etc. through each joint (or other coupling device) to prevent sections/columns from separating is an example of such means.

6.3.3 Climbing treestands shall include a flexible interconnecting device to secure the upper and lower sections together and prevent them from separating. A cable, rope, strap or other similar interconnecting means shall be used.

7. Warning Labels and Markings

7.1 Each product shall have permanent date code indicating its date of manufacture. A date code shall be located on each final product assembly. The date code shall include as a minimum the last digit of the year and a code for the month or the week. (Example: for March, 2009 – "39" or "C9" or "93" or "9C".) Any code that is logical, consistent and able to be decoded by the manufacturer is acceptable. Any product in production for ten years or more with no changes will be required to add a third number so that the last two digits of the year are known. Date codes shall be made permanent.

7.2 It is recommended that manufacturers follow the methods of labeling in Specification F1749 and so described herein. When unusual or special conditions require labels or warning methods not covered herein, the manufacture shall be responsible for their development to assure adequate information for the user. All labels and warnings shall be clearly understandable, legible, in English, of a size consistent with the space available to be marked, and able to withstand reasonable exposure to the elements.

7.3 *Selection of Placement*—Labels and warnings shall be placed such that they are visible to the user when mounting the treestand, tripod or tower, and climbing stick during assembly and prior to use. The following placement locations are recommended for individual units and situations: The top (upper) side of the platform. Along the top (upper) side of the backbar. Along the top (upper) side of a flat surface on a main structural support member. On the top (upper) portion of a component requiring a special label or warning.

7.4 *Selection of Type of Label or Warning*—All materials used shall be able to withstand reasonable exposure to the elements. For direct mark use, it shall be with permanent ink or paint, engraved, stamped, embossed, etched or other permanent means. For tagging (nameplates, stickers, etc.), the tag shall be secured by mechanical means or by adhesives suitable to withstand reasonable exposure to the elements. Adhesives shall be resistant to peel off. Labels or lettering, or both, shall be highly visible by use of the signal word "WARNING" with black letters on orange background.

7.5 *Label Content*—The minimum information that shall be provided on a treestand label is as follows:

7.5.1 The warning label must contain the signal word "WARNING" and preceded with or follow the words "failure to follow all warnings listed could result in serious injury or death."

7.5.2 The label must contain a phrase that warns not to use without a Full Body Harness (Fall Arrest System) that meets the requirements of Test Method F2337.

7.5.3 The label must contain a phrase that warns to "not use before reading instructions" or "read instructions before use."

7.5.4 The label must state the rated load capacity or weight limit of the treestand. For multiple occupancy treestands, both the maximum single user weight rating and maximum multiple user weight rating must be stated.

7.5.5 The label must contain the manufacturer's name and address or name and telephone number.

8. Physical Testing

8.1 *Sampling*—When performing testing for new product conformance an individual unit, for the desired classification, shall be a sample that is representative of production.

8.2 The initial test performed shall be a repetitive loading test in accordance with Test Method F2128.

8.3 Repetitive loading shall be followed by static load testing of the various components of the unit. Testing shall be performed in accordance with the applicable sections of Test Methods F2126, F2125, and F2531 for the subject unit using the criteria as forth in Table 1.

8.4 *Failure Criterion*—During all testing permanent deformation, cracks or other structural defects shall be cause for failure. Visual inspection shall be the main inspection method; however, other non-destructive test methods may be used to determine if the above referenced modes of failure have occurred. During corner and side stability testing, the stands may rotate as the load is applied. However, no sudden movement of the stand shall occur that could cause the user to lose their balance. After conducting the tests there shall be no visible cracks or breakage of any component. and no form of permanent deformation of any component. that may adversely affect the structural integrity or safe use of the equipment.

9. Retests

9.1 In the event of a repetitive load failure for initial product conformance, the manufacturer is to submit two additional stands for testing for final acceptance. In the event of any test failure for a unit that was randomly selected from current retail inventory, the purchaser shall randomly select two additional units from the same production lot to verify conformance. In the case of dispute as to the occurrence of permanent deformation or yielding in regards to climbing or fixed position stands any retests shall be performed on a metal pole in accordance with Test Method F2126 for static load testing.

10. Keywords

10.1 climbing stick; climbing treestands; fixed position; ladder treestands; tower treestand; treestands; tripod

TABLE 1 Requirements for Load Testing

NOTE 1—SUR = Single User Rated Load Capacity; MUR = Multiple User Rated Load Capacity

Test Method	F2126		F2125		F2531		
Static Load Point	Foot Platform	2 Ladder Steps	Corner Stability	Side Stability	Seat Integral	Seat Non-Integral	Furthest Supporting Span if Non Integral
Climbing Hand - Type I (Top Section)	–	–	–	–	–	2 × SUR	2 × SUR
Climbing Sit/Stand - Type II (Top Section)	–	–	–	1 × SUR[B]	–	2 × SUR	2 × SUR
Climbing Sit/Stand - Type III (Top Section)	–	–	–	1 × SUR[B]	–	2 × SUR	2 × SUR
Climbing All Types (Foot Platform)	2 × SUR	–	1 × SUR[A]	–	–	–	–
Fixed Position	2 × SUR	–	1 × SUR	–	1.5 × SUR	2 × SUR	2 × SUR
Ladder Treestand	2 × SUR	2 × SUR	1 × SUR	–	1.5 × SUR	2 × SUR	2 × SUR
Ladder Treestand (multiple occupancy)	2 × MUR	2 × SUR	1 × MUR	–	1.5 × MUR[C]	2 × SUR	2 × SUR
Tripod or Tower	2 × SUR	2 × SUR	–	1 × SUR	1.5 × SUR	–	–
Tripod or Tower (multiple occupancy)	2 × MUR	2 × SUR	–	1 × MUR	1.5 × MUR[C]	–	–
Climbing Stick Continuous	–	2 × SUR	–	–	–	–	–
Climbing Stick Sectional	–	2 × SUR	–	–	–	–	–

[A] In addition to the loading of the four corners of the platform when perpendicular the platform shall also be loaded in the center using a 10 × 10 × 0.5 in. steel plate with the platform at angles of +15° and –15°. This is intended to simulate the extreme angles of the platform with ascending and descending the tree.
[B] In addition to the loading of the left and right side when perpendicular the test shall also be repeated with the top climber section at angles of +15° and –15°. This is intended to simulate the extreme angles of the platform with ascending and descending the tree.
[C] If individual seats are utilized then the seats shall be loaded simultaneously by means of independent load applications or the use of an equalizer bar to distribute the load equally between both seats. The area of application for each seat shall be a 10 × 10 × 0.5 in. steel plate.