Designation: F1826 – 00(Reapproved 2011)

Standard Specification for Live Line and Measuring Telescoping Tools[1]

This standard is issued under the fixed designation F1826; 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 mechanical and electrical testing and acceptance criteria for telescoping live line tools.

1.1.1 A tool designed only for use as a measuring device need not comply with mechanical strength requirements of this specification.

1.2 The use and maintenance of this equipment is beyond the scope of this specification.

1.3 This specification does not cover multiple section or extendable section clampsticks.

1.4 The values stated in inch-pound 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.

1.5 The following safety hazards caveat pertains to Section 9 only. *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.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

D149 Test Method for Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Insulating Materials at Commercial Power Frequencies

F819 Terminology Relating to Electrical Protective Equipment for Workers

3. Terminology

3.1 *Definitions*— Terminology used in this specification is in accordance with Definitions F819.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *acceptance test, n*—one made at the option of the purchaser to verify that a product meets design criteria.

3.2.2 *design test, n*—one made on a sample treated as representative of an industrial product. These tests generally will not be repeated in quantity production.

3.2.3 *dimensional check, n*—measurements made to verify that a product complies with the dimension stated by the manufacturer.

3.2.4 *hydrophobic, adj*—lacking affinity for water.

3.2.5 *routine test, n*—a type of test made regularly on production material.

3.2.6 *telescoping live line tool, n*—an extendable multiple section FRP tool designed to carry an attachment to perform mechanical tasks.

3.2.7 *telescoping measuring tool, n*—an extendable multiple section FRP tool designed only to measure vertical heights.

3.2.8 *visual inspection, n*—a visual check made to detect manufacturing defects.

4. Significance and Use

4.1 This specification shall be used for design, routine, and acceptance testing of live line and measuring telescoping tools.

5. Ordering Information

5.1 Include the following information when ordering telescoping live line or measuring tools, or both:

5.1.1 Quantity.

5.1.2 Catalog number.

NOTE 1—Live line tools may also be designed as a measuring tool.

5.1.3 Tested to meet ASTM Specification F1826 design tests.

6. Workmanship, Finish, and Appearance

6.1 The external and internal surfaces shall have hydrophobic abilities.

6.2 The external and internal surfaces shall be free of any abrasions, scratches, blemishes and surface defects that may capture an impurity and impair the dielectric integrity of the product.

[1] This specification is under the jurisdiction of ASTM Committee F18 on Electrical Protective Equipment for Workers and is the direct responsibility of Subcommittee F18.35 on Tools & Equipment.

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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.

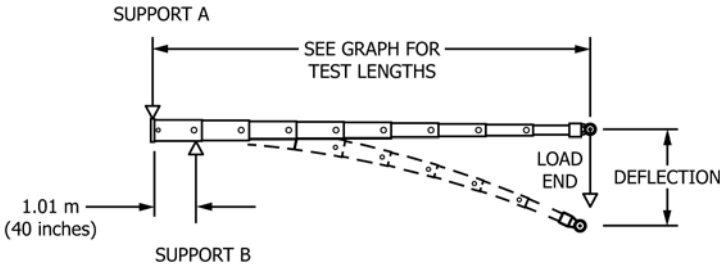


FIG. 1 Horizontal Test Set-Up

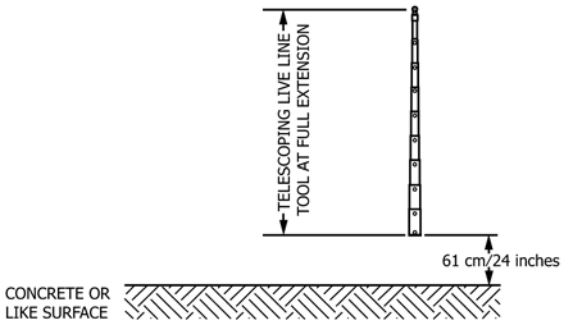


FIG. 2 Position of Stick Prior to Release for Free Fall Test

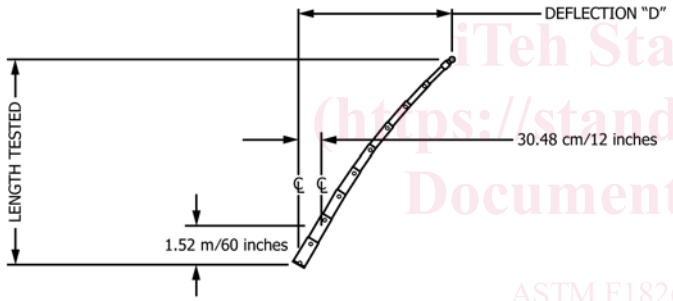
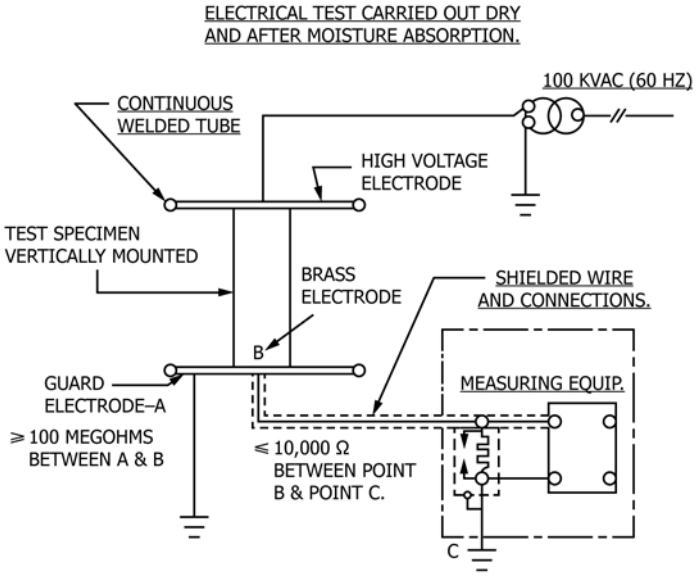


FIG. 3 Block Edge of Telescoping Stick to Obtain Correct 30.48 cm (12 in.) Centerline to Centerline Measurement



NOTE 1—For details of Fig. 4, see Figs. 5-10.

FIG. 4 Typical AC Test Set-Up

6.3 After a finish coating, such as paint, has been applied, the material shall meet all physical, electrical, and mechanical properties.

6.4 Measuring units on telescoping tools shall be readable and clearly legible on all sections designed for measuring.

7. Sampling

7.1 *Design Test*— Perform the test on a minimum of three samples. The design test will be used to qualify a specific item and normally will not be repeated during production.

7.2 *Routine Test*— Perform the test on all pieces delivered to the purchaser.

7.3 *Acceptance Tests*— A test made at the option of the purchaser.

8. Tests to Be Conducted

8.1 *Mechanical:*

Test	*Type*
Visual	Routine/Acceptance
Dimensional	Design/Acceptance
Horizontal Bending Deflection	Design
Free Fall Impact	Design
Tension	Design
Vertical Deflection	Design

8.2 *Electrical:*

Test	*Type*
Leakage Current	Design
Withstand	Routine/Acceptance

9. Mechanical Test Methods

9.1 *Visual Inspection*—In accordance with the manufacturer's recommendation, a visual inspection shall be made to detect constructional defects, for example, evidence of faulty bonding between fibers and resin, air bubbles, foreign bodies, or particles. Check all operational components for fit and function.

9.2 *Dimensional Values*—The manufacturer, upon request by the purchaser, shall furnish product dimensional values to the customer.

9.3 *Mechanical Tests:*

9.3.1 *Horizontal Bending Deflection Tests*—When extended to the maximum length, a telescoping live line tool shall be placed horizontally in a testing device as shown in Fig. 1.

9.3.1.1 The distance between supports is 1.01 m (40 in.). Support B serves only as a fulcrum and can be a cradle to mate with the pole diameter of the location.