



Designation: E 501 – 06

Standard Specification for Standard Rib Tire for Pavement Skid-Resistance Tests¹

This standard is issued under the fixed designation E 501; 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 the general requirements for the standard rib tire for pavement skid-resistance testing. The tire covered by this specification is for use in evaluation of tire-pavement friction.

1.2 The terminology in this specification is consistent with Terminology E 867.

1.3 The values stated in inch-pound units are to be regarded as the standard.

2. Referenced Documents

2.1 *ASTM Standards*:²

D 297 Test Methods for Rubber Products—Chemical Analysis

D 412 Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension

D 1054 Test Method for Rubber Property—Resilience Using a Goodyear-Healey Rebound Pendulum

D 1765 Classification System for Carbon Blacks Used in Rubber Products

D 2240 Test Method for Rubber Property—Durometer Hardness

D 3182 Practice for Rubber—Materials, Equipment, and Procedures for Mixing Standard Compounds and Preparing Standard Vulcanized Sheets

E 867 Terminology Relating to Vehicle-Pavement Systems

3. Materials and Manufacture

3.1 The individual standard tires shall conform to the design standards of Section 5. Dimensions, weights, and permissible variations are given in Section 6 and in Fig. 1 and Fig. 2.

3.2 Tread compounding, fabric processing, and all steps in tire manufacturing shall be certified to ensure that the specifications are met.

3.3 A small raised guideline shall be molded on the tire shoulder area to provide a rapid visual check as to whether the maximum wear level for testing has been reached. Tires should actually be removed from service as recommended in 11.5. The marking on the tire, as suggested in Fig. 1, and curb ribs shall be molded on both sides of the tire.

3.4 Fig. 1 is a photograph of the standard tire, and Fig. 2 is a cross section of a typical tire.³

3.5 tire should be mounted so that it is rotated in the direction of the arrow on the side of the tire. See Fig. 1.

4. Material Requirements

4.1 The compounding requirements for the tread compound are given in Table 1.

4.2 *Fabric*—The fabric shall be polyester body or carcass plies and fiber glass belt plies.

NOTE 1—Certain proprietary products have been specified since exact duplication of properties of the finished tire may not be achieved with other similar products. This inclusion does not in any way comprise a recommendation for these proprietary products nor against similar products of other manufacturers, nor does it imply any superiority over any such similar products.

5. Physical Requirements Physical Requirements

5.1 The physical and mechanical test requirements are given in Table 2.

6. Dimensions, Weights, and Permissible Variations

6.1 *General*—Details of dimensions are listed as follows and are shown in Fig. 2. When tolerances are not specified, tire dimensions are subject to manufacturer's normal tolerances.

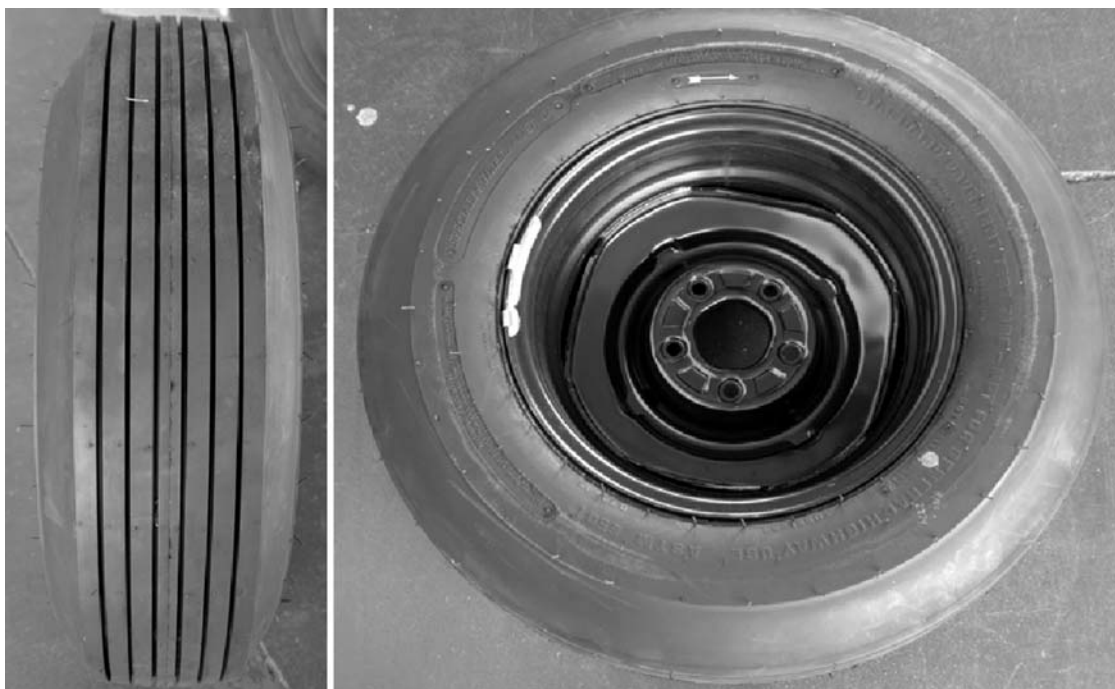
6.1.1 *Construction*—The tire shall be a size G78-15 tubeless type, belted bias construction (two body plies plus two belt plies). The tread width shall be 5.85 in. (148.6 mm) and the cross-sectional tread radius shall be 15.50 ± 2.0 in. (393.7 ± 50.8 mm). The tire shall have a recommended cross-section width of 8.35 in. (212.1 mm) and a recommended section height of 6.34 in. (161.0 mm) when mounted on a Tire and Rim Association 15 by 6JJ rim. The cured crown angles shall be $33 \pm 2^\circ$ for the body plies, and $27 \pm 2^\circ$ for the belt plies.

¹ This specification is under the jurisdiction of ASTM Committee E17 on Vehicle - Pavement Systems and is the direct responsibility of Subcommittee E17.24 on Tire and Slider Characteristics.

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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 ASTM E 501 tire is available from Specialty Tires of America, P.O. Box 749, 1600 Washington St., Indiana, PA 15701.



Marking on Tire

G 78–15
 Standard Pavement Test Tire—Not for General Highway Use
 ASTM Designation: E 501
 Manufacturer's Name or Trademark
 Rim: 15x6JJ

FIG. 1 Test Tire

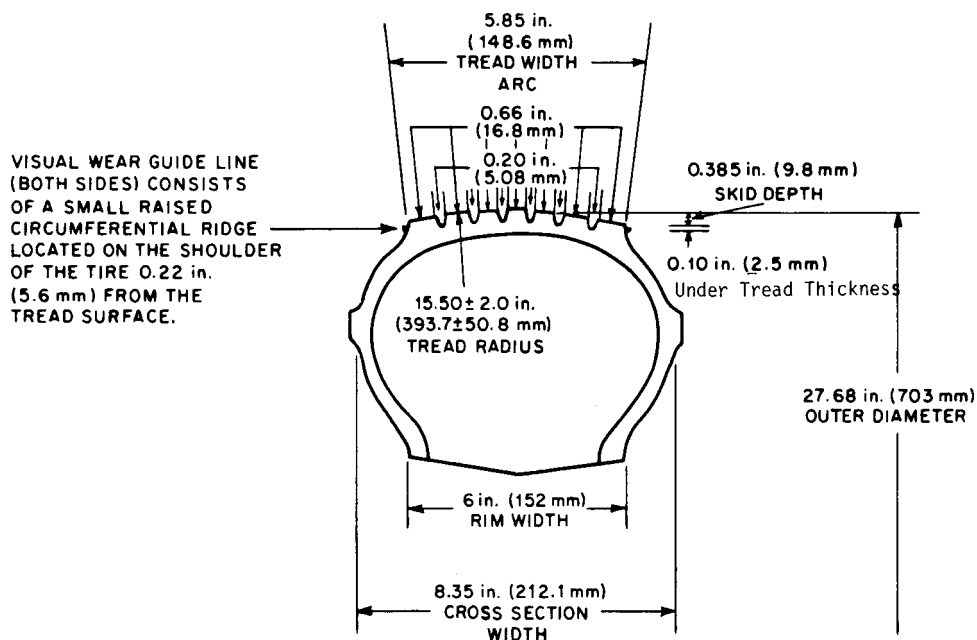


FIG. 2 Tire Section, Including Inflated Tire Dimensions

6.1.2 *Ribs*—The tire shall have seven plain ribs of 0.66 in. (16.8 mm) width each. Both sides of the shoulder ribs shall be parallel from the tread surface down to a depth equal to the wear guideline.

6.1.3 *Grooves*—The tire shall have six straight grooves of 0.20 in. (5.08 mm) width each. Each groove shall be parallel to

the radius of the tread-radius arc and shall have a full radius at the bottom of the groove. Each groove shall have a uniform skid depth of 0.385 in. (9.8 mm) maximum and shall have an under-tread thickness of 0.10 in. (2.5 mm).

6.1.4 *Wear Indicators*—There shall be six rows of tread wear indicators spaced uniformly around the tire circumference.