



Designation: F2493–06 ~~Designation: F 2493 – 08~~

Standard Specification for P225/60R16 97S Radial Standard Reference Test Tire¹

This standard is issued under the fixed designation F 2493; 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 reappraisal. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reappraisal.

1. Scope

1.1 This specification covers the general requirements for the P225/60R16 97S radial standard reference test tire. The tire covered by this specification is primarily for use as a reference tire for braking traction, snow traction, and wear performance evaluations, but may also be used for other evaluations, such as pavement roughness, noise, or other tests that require a reference tire.

1.1.1 A P195/75R14 (Specification E 1136) tire is another standard reference test tire that is also used for these purposes. This standard was originally published in 1986 and continues to be used.

1.2 This specification provides a 16-in. standard tire design and construction, standard dimensions, and specifies the conditions of storage.

1.3

1.3 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.

1.4 *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.*

2. Referenced Documents

2.1 *ASTM Standards:*²

D 412 Test Methods for Vulcanized Rubber and Thermoplastic Elastomers Tension

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

E 1136 Specification for A Radial Standard Reference Test Tire

F 538 Terminology Relating to the Characteristics and Performance of Tires

3. Terminology

3.1 *Definitions:*

3.1.1 For definitions of terms used in this specification, refer to Terminology F 538.

3.1.2 *all-season tread, n*—tread design providing dry, wet, and snow traction performance for an optimized balance for year-round performance and which may meet the Rubber Manufacturers Association (RMA) definition for an M&S, M+S, M/S, MS, etc. marked tire (see RMA “Snow Tire Definitions for Passenger and Light Truck (LT) Tires”).³

3.1.3 *pavement characteristic, n*—aphysical feature or property of a pavement surface such as type, roughness, texture, and skid resistance. E 867

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *all-season tread*

3.1.4 *pitch, n*—a balance of the tread design for traction in rain or snow with good tread life and a comfortable, quiet ride.

3.2.2 *itches, n*—the number of different circumferential segments of the tread design, which vary by the lengths of their individual designs.

¹ This specification is under the jurisdiction of ASTM Committee F09 on Tires and is the direct responsibility of Subcommittee F09.20 on Vehicular Testing. Current edition approved Dec. 1, 2006. Published December 2006.

Current edition approved May 1, 2008. Published May 2008. Originally approved in 2006. Last previous edition approved in 2006 as F 2493 – 06.

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 Available from the Tire and Rim Association, Inc., 175 Montrose West Ave., Suite 150, Copley, OH 44321.

³ Available from the Rubber Manufacturers Association, 1400 K Street, N.W. Washington, D.C. 20005.

~~3.2.3—unit of tread pattern elements used in various combinations to obtain optimum noise levels.~~

~~3.1.5 standard reference test tire, SRTT, n—a tire that is used as a control tire or surface-monitoring tire.— tire that is used as a control tire or surface-monitoring tire (for example, Specification E 1136 and F 2493 tires).~~

4. Design and Construction

4.1 The P225/60R16 standard reference test tire shall feature the steel-belted radial technology, and an all-season silica content tread design, see Figs. 1 and 2, with technology as described in ~~Section 3.2.3~~ and Sections 5-7.

4.2 The tire shall be designed to conform with the Tire and Rim Association, Inc. (TRA) standard nominal dimensions and tolerances for cross section and overall diameter found in the current TRA Yearbook.

~~4.3 The tire used for this specification is produced by BFGoodrich Tire Manufacturing.⁴~~

4.3 The tire used for this specification is produced by BFGoodrich Tire Manufacturing.⁵ The tire is stamped on the sidewall with the words: “Standard Reference Test Tire.”

5. Materials and Manufacture

5.1 The individual standard reference test tires shall conform to the manufacturer’s design standards.

5.2 Tread compound, fabric processing, and all the steps in tire manufacturing shall be controlled to ensure minimum variability between tires.

5.3 The standard reference test tire shall be as originally molded without any tread grinding or repairs.

5.4 Since the formulation for tread compounds are proprietary, they shall be controlled by means of their physical properties given in Table 1.

5.5 Dimensions, weights, and permissible variations are given in Section 7.

5.6 The tire shall be of the following construction:

5.6.1 One-ply sidewall construction (polyester).

5.6.2 A three-ply tread construction (one-ply polyester and two steel belts).

5.6.3 Black sidewall.

5.6.4 Ventless tread molding.

6. Physical Properties

6.1 The physical properties of the tread compound are listed in Table 1.

⁴The sole source of supply of the standard reference tire known to the committee at this time is BFGoodrich Tire Manufacturing, Opelika Plant, P.O. Box 30, Opelika, AL 36801 (attn: Development Qualification Center SRTT Manager—specify P225/60R16 97S SRTT Uniroyal Tiger Paw AWP). If you are aware of alternative suppliers, please provide this information to ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend.

⁴ Available from the Tire and Rim Association, Inc., 175 Montrose West Ave., Suite 150, Copley, OH 44321.

⁵The sole source of supply of the standard reference tire known to the committee at this time is BFGoodrich Tire Manufacturing, Opelika Plant, P.O. Box 30, Opelika, AL 36801 (attn: Development Qualification Center SRTT Manager—specify P225/60R16 97S SRTT Uniroyal Tiger Paw AWP). If you are aware of alternative suppliers, please provide this information to ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend.



FIG. 1 Front View of the P225/60R16 97S Radial Standard Reference Test Tire