



Designation: F3676 – 23

Standard Specification for 225/45R17 94V XL Radial Standard Reference Test Tire¹

This standard is issued under the fixed designation F3676; 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 225/45R17 94V XL radial standard reference test tire. The tire covered by this specification is primarily for use as a reference tire for abrasion rate evaluations of normal, snow and special use tires as defined by ISO 4223-1, but may also be used for other evaluations. For the general requirements of severe snow use tires as defined by ISO 4223-1, refer to Specification [F3675](#).

1.1.1 Other standard reference test tires are also used for these purposes and are referenced in Section [2](#).

1.2 This specification provides a 17 rim diameter code standard tire design and construction, standard dimensions, and specifies the conditions of storage.

1.3 The values stated in SI units are to be regarded as standard. The values given in parentheses are mathematical conversions to inch-pound 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, health, and environmental 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

[D412](#) Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension

[D2240](#) Test Method for Rubber Property—Durometer Hardness

[D3182](#) Practice for Rubber—Materials, Equipment, and Procedures for Mixing Standard Compounds and Preparing Standard Vulcanized Sheets

[E867](#) Terminology Relating to Vehicle-Pavement Systems

[E1136](#) Specification for P195/75R14 Radial Standard Reference Test Tire

[F538](#) Terminology Relating to Characteristics and Performance of Tires

[F1805](#) Test Method for Single Wheel Driving Traction in a Straight Line on Snow- and Ice-Covered Surfaces

[F2493](#) Specification for P225/60R16 97S Radial Standard Reference Test Tire

[F2870](#) Specification for 315/70R22.5 154/150L Radial Truck Standard Reference Test Tire

[F2871](#) Specification for 245/70R19.5 136/134M Radial Truck Standard Reference Test Tire

[F2872](#) Specification for 225/75R16C 116/114S M+S Radial Light Truck Standard Reference Test Tire

[F3611](#) Specification for P225/60R16 97S Radial Low Tread Depth Standard Reference Test Tire

[F3675](#) Specification for 225/45R17 94H XL Radial Standard Reference Test Tire

[F3677](#) Specification for 315/70R22.5 154/150L Radial Truck Standard Reference Test Tire SW

[F3678](#) Specification for 245/70R19.5 136/134M Radial Truck Standard Reference Test Tire SW

2.2 ISO Standards:³

[ISO 4223-1](#) Definitions of some terms used in the tyre industry — Part 1: Pneumatic tyres

[ISO 18106](#) Passenger car, commercial vehicle, truck and bus tyres — Methods for measuring snow grip performance — Loaded new tyres

3. Terminology

3.1 For definitions of terms used in this specification, refer to Terminology [F538](#).

3.2 Definitions:

³ Available from International Organization for Standardization (ISO), ISO Central Secretariat, Chemin de Blandonnet 8, CP 401, 1214 Vernier, Geneva, Switzerland, <https://www.iso.org>.

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, 2023. Published January 2024. DOI: 10.1520/F3676-23.

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.

3.2.1 *abrasion rate, n*—tire mass loss per unit of distance traveled (mg/km) or per unit of distance traveled and carried load (mg/km/T).

3.2.2 *normal tire, n*—tire intended for public highway use which does not require “M+S” (or other variations) or severe snow or special use tire designations.

3.2.3 *pavement characteristic, n*—physical feature or property of a pavement surface such as type, roughness, texture, and skid resistance. **E867**

3.2.4 *pitch, n*—unit of tread pattern elements used in various combinations to obtain optimum noise levels. **F538**

3.2.5 *severe snow use tire, n*—snow tire whose tread pattern, tread compound, or structure is specifically designed based on test results obtained from either ISO 18106 or Test Method **F1805**, and which is visually identified by a “3 Peak Mountain Snow Flake (3PMSF)” symbol molded into the sidewall adjacent to the M+S type designation.

3.2.6 *snow tire, n*—tire whose tread pattern, tread compound or structure is primarily designed to achieve in winter conditions, for example, snow, a performance better than that of a normal tire with regard to its ability to initiate or maintain vehicle motion. It is identified by a combination of the letters “M” and “S”, for example, M+S, M&S.

3.2.7 *special use tire, n*—tire intended for mixed use both on-road and off-road or for other special duty and primarily designed to initiate and maintain the vehicle in motion in off-road conditions.

3.2.8 *standard reference test tire, SRTT, n*—a tire that is commonly used as a control tire or surface monitoring tire and meets the requirements for one of the following Specifications: **E1136**, **F2493**, **F2870**, **F2871**, **F2872**, **F3611**, **F3675**, **F3676**, **F3677**, or **F3678**. **F538**

4. Design and Construction

4.1 The 225/45R17 94V XL standard reference test tire shall feature the steel-belted radial technology, see **Figs. 1 and 2**,



FIG. 1 Front View of the 225/45R17 94V XL Radial Standard Reference Test Tire



FIG. 2 Side View of the 225/45R17 94V XL Radial Standard Reference Test Tire

with technology as described in Section 3 and Sections 5 – 7.

4.2 The tire shall be designed to conform to the European Tyre and Rim Technical Organisation (ETRTO) standard nominal dimensions and tolerances for cross section and overall diameter found in the current ETRTO Standards Manual.⁴

4.3 The tire used for this specification is produced by Manufacture Française des Pneumatiques Michelin.⁵ The tire is stamped on the sidewall with the words: “Standard Reference Test Tire” and “Summer SRTT”, and ECE (Economic Commission for Europe) and DOT (Department of Transportation) certification marks.

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.

⁴ Available from the European Tyre and Rim Technical Organisation, Avenue d’Auderghem 22-28 Box 9 - B 1040 Brussels - Belgium, info@etrto.org.

⁵ The sole source of supply of the apparatus known to the committee at this time is Manufacture Française des Pneumatiques Michelin, 23 place des Carmes Déchaux, 63040 Clermont-Ferrand Cédex 9, France (attn. compte-fonction.srtt@michelin.com – specify 225/45R17 94V XL TL BF Goodrich Summer SRTT). 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,¹ which you may attend.