Designation: ~~F2872 – 16~~ F2872 – 19

Standard Specification for 225/75R16C 116/114S M+S Radial Light Truck Standard Reference Test Tire[1]

This standard is issued under the fixed designation F2872; 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 225/75R16C 116/114S radial light truck (or European light duty vehicle) 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 Other standard reference test tires are also used for these purposes and are referenced in Section 2.

1.2 This specification provides a 16.0 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~~ safety, health, and ~~health~~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

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 the Characteristics and Performance of Tires

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

2.2 *ISO Standards:*[3]

ISO 868 Plastics and ebonite – Determination of indentation hardness by means of a durometer (Shore hardness)

ISO 21509 Plastics and Ebonite – Verification of Shore durometers

3. Terminology

3.1 *Definitions:*

3.1.1 For definitions of terms used in this specification, refer to Terminology F538.

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[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 ~~Nov. 1, 2016~~Oct. 1, 2019. Published ~~November 2016~~October 2019. Originally approved in 2011. Last previous edition approved in ~~2011~~2016 as ~~F2872 – 11.~~F2872 – 16. DOI: ~~10.1520/F2872-16.~~10.1520/F2872-19.

[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 International Organization for Standardization (ISO), ISO Central Secretariat, BIBC II, Chemin de Blandonnet 8, CP 401, 1214 Vernier, Geneva, Switzerland, http://www.iso.org.

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

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

3.1.4 *standard reference test tire, SRTT, n*—tire that is used as a control tire or surface-monitoring tire (for example, Specifications E1136, F2493, F2870, F2871, and F2872 tires). **F538**

4. Design and Construction

4.1 The 225/75R16C 116/114S standard reference test tire shall feature the steel-belted radial technology, see Fig. 1 and Fig. 2, with technology as described in Sections 5 – 7.

4.2 The tire shall be designed to conform to the European Tyre and Rim Technical Organisation (ETRTO) 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 Francaise des Pneumatiques Michelin.[5] The tire is stamped on the sidewall with the words: “Standard Reference Test Tire” and “F2872”.

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 Two-ply sidewall construction (polyester).
5.6.2 A five-ply tread construction (two-ply polyester and three steel belts).
5.6.3 Black sidewall.

6. Physical Properties

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

FIG. 1 Front View of the 225/75R16C 116/114S Radial Light Truck Standard Reference Test Tire

[4] Available from the European Tyre and Rim Technical Organisation 78/80, rue Defacqz – B-1060 Brussels Belgium.

[5] The sole source of supply of the apparatus known to the committee at this time is Manufacture Francaise des Pneumatiques Michelin CERL Ladoux, 23 place des Carmes Dechaux, 6304 Clermont-Ferrand Cedex 09, France (attn. F43 Magasin – specify 225/75R16C 116/114S Michelin light truck 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.