

هيئة التقييس لدول مجلس التعاون لدول الخليج العربية GCC STANDARDIZATION ORGANIZATION (GSO)

مشروع مواصفة نهائي
Final Draft of Standard FDS

إعداد اللجنة الفنية الفرعية الخليجية رقم TC 02/SC 01

Prepared by GSO Technical Sub-Committee No. TC 02/SC 01

GSO 02 /01/FDS/ 1783:2018

إطارات سيارات الركوب - درجة مقاومة تآكل المداس (الموطئ) والسحب والحرارة Passenger Car Tyres Treadware, Traction and Temperature Resistance Grading

ICS: 83.160.10

This document is a draft Gulf Standard circulated for comments. It is, therefore, subject to alteration and modification and may not be referred to as a Gulf Standard until approved by GSO.

هذه الوثيقة مشروع لمواصفة قياسية خليجية تم توزيعها لإبداء الرأي والملاحظات بشأنها ، لذلك فإنها عرضة للتغيير والتبديل ، ولا يجوز الرجوع إليها كمواصفة قياسية خليجية إلا بعد اعتمادها من الهيئة.

تقديم

هيئة التقييس لدول مجلس التعاون لدول الخليج العربية هيئة إقليمية تضم في عضويتها أجهزة التقييس الوطنية في الدول الأعضاء، ومن مهام الهيئة إعداد المواصفات القياسية واللوائح الفنية الخليجية بواسطة لجان فنية متخصصة.

قرر المجلس الفني لهيئة التقييس لدول مجلس التعاون لدول الخليج العربية في اجتماعه رقم () الذي عقد بتاريخ...../...../..... هـ ، الموافق/...../..... م اعتماد تحديث اللائحة الفنية الخليجية رقم GSO 1783:2018 " إطارات سيارات الركوب - درجة مقاومة تأكل المداس (الموطي) والسحب والحرارة " التي تم دراستها و إعدادها ضمن برنامج عمل اللجنة الفنية الفرعية الخليجية رقم TC 02/SC01 " اللجنة الفنية الفرعية الخليجية لمواصفات المركبات والإطارات " المدرجة في خطة دولة الكويت .
على أن تلغي اللائحة الفنية الخليجية رقم GSO 1783:2006 و تحل محلها.

Passenger Car Tyres

Treadware, Traction and Temperature Resistance Grading

1- SCOPE AND FIELD OF APPLICATION

This standard is concerned with the treadwear, traction and temperature resistance grading of tyres for use on passenger cars and multi-purpose passenger vehicles. The temporary spare tyres are exempted from the requirements of this standard.

2- COMPLEMENTARY REFERENCES

- 2.1 GSO 48 "Motor Vehicles - Conformity Certificates".
- 2.2 Gulf standard which will be approved by GSO concerned with "Passenger Car Tyres - Methods of Testing of Tyre Treadwear".
- 2.3 Gulf standard which will be approved by GSO concerned with "Passenger Car Tyres - Methods of Testing of Tyre Traction Grading".
- 2.4 GSO1784 "Passenger Car Tyres - Methods of Testing of Tyre Temperature Resistance Grading".
- 2.5 GSO 51 "Passenger Car Tyres - Part 1: Nomenclature, Designation, Marking, Dimensions, Load Capacity and Inflation Pressure".
- 2.6 GSO 645 "Multi-purpose Vehicles, Trucks, Buses and Trailers Tyres- Part 1: Nomenclature, Designation, Marking, Dimensions, Load Capacity and Inflation Pressure".

3- DEFINITIONS

Refer to the definitions stated in the Gulf standard GSO 51 and GSO 645, which are mentioned in items 2.5 and 2.6, respectively.

- ~~3.1 Passenger Car
A motor vehicle with a motive power designed to carry nine persons and their luggage or less including the driver.~~
- ~~3.2 Multi-Purpose Passenger Vehicle
A motor vehicle, designed to carry ten persons or less which is constructed either on a truck chassis or with special features for occasional off-road operation.~~
- ~~3.3 Construction
The internal structure of the tyre such as cord angles, number and placement of breakers.~~

- ~~3.4 — Materials
The substances used in manufacture of the tyre such as belt fiber, rubber compound, etc.~~
- ~~3.5 — Design
The properties or conditions imposed by the tyre mold, such as aspect ratio, tread pattern, etc.~~
- ~~3.6 — Tread
The part of a tyre which normally comes in contact with the ground and consists of ribs and grooves.~~
- ~~3.7 — Side wall
The part of a tyre between the tread and the bead.~~
- ~~3.8 — Ply
A layer of rubber coated parallel cords.~~
- ~~3.9 — Cord
The stands forming the plies in the tyre.~~
- ~~3.10 — Bead separation
A breakdown of bond between components in the bead area.~~
- ~~3.11 — Chunking
The breaking away of pieces of the tread or side wall.~~
- ~~3.12 — Cracking
Any parting within the tread, side wall or inner liner of the tyre extending to cord material.~~
- ~~3.13 — CT (Special Tyre)
A pneumatic tyre with an inverted flange tyre and rim system in which the rim is designed with rim flanges pointed radially inward and the tyre is designed to fit on the underside of the rim in a manner that encloses the rim flanges inside the air cavity of the tyre.~~

4- REQUIREMENTS

- 4.1 Information
- 4.1.1 Each tyre manufacturer, or each brand name owner (in the case of tyres marketed under a brand name) shall provide grading information for each tyre of which he is the manufacturer or brand name owner in the manner set forth below:
- 4.1.2 The grades for each tyre shall be only those specified below.
- 4.1.3 Each tyre shall be graded with the words, letters, symbols and figures specified below, permanently molded into or onto the tyre side wall

between the tyre's maximum section width and shoulder in accordance with one of the methods shown in Fig (1).

- 4.1.4 Each tyre shall be able to achieve the level of performance represented by each grade with which it is labeled. An individual tyre need not, however, meet further requirements after having been subjected to the test for any one grade.
- 4.1.5 Each tyre shall have affixed to its tread surface so as not to be easily removable a label or labels containing its grades and other information.
- 4.1.6 The treadwear grade attributed to the tyre shall be either imprinted or indelibly stamped on the label containing the material, directly to the right of or below the word "TREADWEAR."
- 4.1.7 The traction grade attributed to the tyre shall be indelibly circled in an array of the potential grade letters AA, A, B, or C, directly to the right of or below the word "TRACTION".
- 4.1.8 The temperature resistance grade attributed to the tyre shall be indelibly circled in an array of the potential grade letters A, B, or C, directly to the right of or below the word "TEMPERATURE"
- 4.1.9 The words "TREADWEAR," "TRACTION," AND "TEMPERATURE," in that order, may be laid out vertically or horizontally.
- 4.2 Performance
- 4.2.1 Treadwear
- 4.2.1.1 Each tyre shall be graded for treadwear performance with the word "TREADWEAR" followed by a number of two or three digits representing the tyre's grade for treadwear, expressed as a percentage of the NHTSA nominal treadwear value, when tested in accordance with the conditions and procedures specified in items 2.2.
- ~~4.2.1.2 The treadwear value shall be obtained when tested in accordance with the GSO standard mentioned in item 2.2.~~
- 4.2.1.2 Treadwear grades shall be expressed in multiples of 20 (for example, 80, 120, 160).
- 4.2.2 Traction
- 4.2.2.1 Each tyre shall be graded for traction performance with the word "TRACTION," followed by the symbols AA, A, B, or C, when the tyre is tested in accordance with the conditions and procedures specified in paragraph 2.3.
- ~~4.2.2.2 The traction performance shall be obtained when tested in accordance with the GSO standard mentioned in item 2.3.~~

4.2.2.2 The tyres shall be graded as listed in Table 1 below:

TABLE 1

Tyre Traction Grade Type as a Function of Traction Coefficient

Traction grade type	Traction coefficient when tested on*	
	concrete surface	asphalt surface
C	≤ 0.38	≤ 0.26
B	> 0.38	> 0.26
A	> 0.47	> 0.35
AA	> 0.54 μ	> 0.38 μ

*The tyres should be tested in accordance with the GSO standard mentioned in item 2.3.

~~4.2.2.3.1 The tyre shall be graded C when the traction coefficient is either:~~

- ~~▪ 0.38 or less when tested in accordance with the GSO standard mentioned in item 4.2.2.2 on the asphalt surface or,~~
- ~~▪ 0.26 or less when tested in accordance with the GSO standard mentioned in item 4.2.2.2 on the concrete surface.~~

~~4.2.2.3.2 The tyre shall be graded B when the traction coefficient is both:~~

- ~~▪ More than 0.38 when tested in accordance with the GSO standard mentioned in item 4.2.2.2 on the asphalt surface, or~~
- ~~▪ More than 0.26 when tested in accordance with the GSO standard mentioned in item 4.2.2.2 on the concrete surface.~~

~~4.2.2.3.3 The tyre shall be graded A when the traction coefficient is both:~~

- ~~— More than 0.47 when tested in accordance with the GSO standard mentioned in item 4.2.2.2 on the asphalt surface, and~~
- ~~— More than 0.35 when tested in accordance with the GSO standard mentioned in item 4.2.2.2 on the concrete surface.~~

~~4.2.2.3.4 The tyre shall be graded AA when the traction coefficient is both:~~

- ~~- More than 0.54 μ when tested in accordance with the GSO standard mentioned in item 4.2.2.2 on the asphalt surface, and~~
- ~~— More than 0.38 μ when tested in accordance with the GSO standard mentioned in item 4.2.2.2 on the concrete surface.~~

4.2.3 Temperature resistance

4.2.3.1 Each tyre shall be graded for temperature resistance performance with the word "TEMPERATURE" followed by the letters A, B or C based on its performance when the tyre is tested in accordance with the procedures specified in item 2.4.

~~4.2.3.2 The temperature resistance performance shall be obtained when testing the tyres in accordance with the GSO standard mentioned in item 2.4.~~

4.2.3.2 A tyre shall be considered to have successfully completed a test stage in accordance with this paragraph if, at the end of the test stage, it exhibits no visual evidence of tread, sidewall, ply, cord, innerliner, or bead separation, chunking, broken cords, cracking or open splice and the tyre pressure is not less than the pressure specified in GSO 1784/2017 Regulation.

4.2.3.3 The tyres shall be graded as listed in Table 2 below:

TABLE 2
Tyre Temperature Grade Type

The tyre shall be graded by*		
C	B	A
if it fails to complete the 500 rpm	if it successfully completes the 500 rpm	if it successfully completes the 575 rpm

*The tyres shall be tested as specified in the GSO standard mentioned in item 2.4.

~~4.2.3.4 The tyre shall be graded "C" if it fails to complete the 500 rpm test specified in the GSO standard mentioned in item 2.4. in paragraph (g)(9)~~

~~4.2.3.5 The tyre shall be graded "B" if it successfully completes the 500 rpm test specified in the GSO standard mentioned in item 2.4.~~

~~4.2.3.6 The tyre shall be graded "A" if it successfully completes the 575 rpm test specified in the GSO standard mentioned in item 2.4.~~

5- LABELLING AND MARKING

Each tyre shall be legibly and indelibly molded on to the tyre side wall with the following information in either Arabic or English or both languages:

5.1 Manufacturer's name and/or trademark.

5.2 The date of manufacture in the form of a group of four numerals, the first two numbers showing the week and the last two numbers showing the year of manufacture.

5.3 Country of manufacture.

5.4 Treadwear.

5.5 Traction.

5.6 Temperature grade.

6- TESTING

6.1 Sampling

A sufficient number of tyres shall be taken from the consignment and subjected to the required tests.

6.2 Methods of tests

Tests shall be carried out in accordance with the following three GSO standards.

6.2.1 Gulf standard which will be approved by GSO concerned with "Passenger Car Tyres - Methods of Testing of Tyre Treadwear".

6.2.2 Gulf standard which will be approved by GSO concerned with "Passenger Car Tyres - Methods of Testing of Tyre Traction Grading".

6.2.3 GSO 1784/2017 "Passenger Car Tyres - Methods of Testing of Tyre Temperature Resistance Grading".

6.3 Tests

The following tests shall be carried out on the sample withdrawn in accordance with item 6.1.

6.3.1 Visual examination.

6.3.2 Tyre treadwear.

6.3.3 Tyre traction.

6.3.4 Tyre temperature rating.

7- RULES OF ACCEPTANCE AND REJECTION

7.1 Tyres affixed to the vehicles

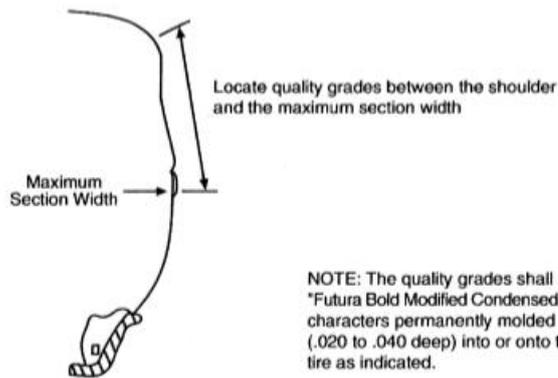
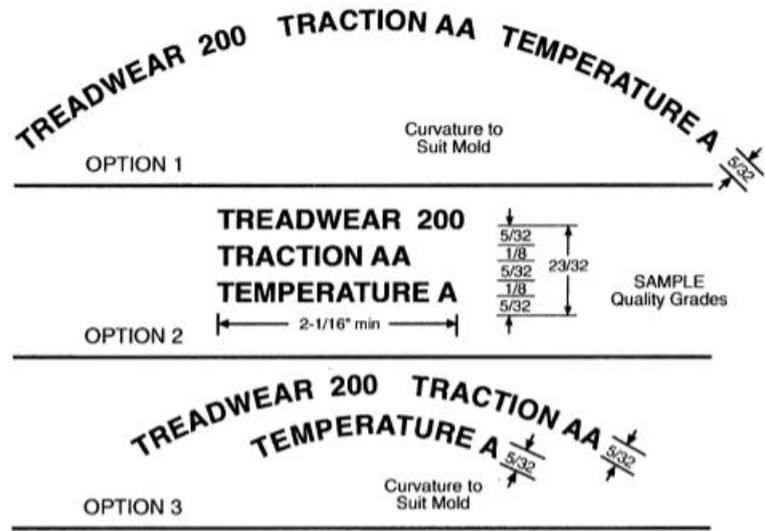
The rules of acceptance and rejection shall be in accordance with the GSO 48/1984 "Motor Vehicles - Conformity Certificates".

7.2 Tyres coming separately as an additional part of a motor vehicle.

7.2.1 The tyres shall be considered complying with all the requirements of this standard when the withdrawn sample from the consignment passes the tests.

7.2.2 In case one or more of the tyres in the sample fails to pass any one of the tests, a second sample double the number of units as the first one, shall be withdrawn from the same consignment and subjected to the tests.

The tyres shall be considered complying with the requirements of this standard when all the units of the second sample pass the tests, otherwise the tyres shall be considered non-complying.



NOTE: The quality grades shall be in "Futura Bold Modified Condensed" or "Gothic" characters permanently molded (.020 to .040 deep) into or onto the tire as indicated.

Figure (1)

Molded Treadwear, Traction and Temperature

REFERENCES:

- 1) FMVSS No. 104 "Uniform tire quality grading standards". 2016

FOR STUDY