

# EL502. Tires for Trucks and Buses

[EL502-2001/2/2004-58]



## 1. Scope

The criteria shall apply to the product of tire for truck-bus and tire for light truck (hereinafter referred to as "tire") designated as '11R22.5 16PR', '12R22.5 16PR', '185R14', '195R14', '195R15' and '500R12'. However, recycling tires shall be excluded.

## 2. Definitions

### 2.1

"Wear-proof rate" refers to the level that the tread part of tire components touching the road endures against wear as driving.

### 2.2

"Rolling resistance" refers to the resistance power impeding free rolling of tire which is occurred by friction between tire and road and air resistance, or transformation and heat generated by hysteresis of internal components of tire.

## 3. Certification Criteria

### 3.1 Environmental Criteria

#### 3.1.1

With respect to the consumption of energy in the use stage, rolling resistance shall satisfy the following requirements by tire type, standard and use.

##### 3.1.1.1 For Truck/Bus

Tire Standard and Use	11R22.5 16PR		12R22.5 16PR	
	Steer / All	Traction / Drive	Steer / All	Traction / Drive
Rolling Resistance [N]	≤150	≤230	≤165	≤260

### 3.1.1.2 For Light Truck

Tire Standard	185R14	195R14	195R15	500R12
Rolling Resistance [N]	≤ 60	≤ 68	≤ 70	≤ 34

### 3.1.2

With respect to the life span of product affecting the consumption of resource in the use stage and the elimination of waste materials in the disposal stage, the weight shall satisfy the following requirements by tire type, standard and use, and data that can prove the excellence of the wear-proof rate shall be submitted.

#### 3.1.2.1 For Truck/Bus

Tire Standard and Use	11R22.5 16PR		12R22.5 16PR	
	Steer / All	Traction / Drive	Steer / All	Traction / Drive
Weight [kg]	55.1~60.9	52.2~57.8	60.8~67.2	59.8~66.2

#### 3.1.2.2 For Light Truck

Standard	185R14	195R14	195R15	500R12
Weight [kg]	10.4~11.6	11.4~12.6	12.3~13.7	7.6~8.4

## 3.2 Quality Criteria

The appearance, intensity, bead separation performance, durability and high-speed durability of tire shall be more than the quality requirement of KS M 6750(rubber tire for automobile).

## 3.3 Information for Consumers

### 3.3.1

Information on energy saving rate

### 3.3.2

Standard and check methods of proper air pressure in order to reduce rolling resistance

## 4. Test Methods

Certification Criteria		Test and Verification Methods
Environmental Criteria	3.1.1	·Rolling Resistance: Test report by an accredited testing laboratory in accordance with the test methods 4.1 and 4.2 ·Weight: Measure down to the unit of 0.01kg
	3.1.2	Verification of submitted documents
Quality Criteria		Test report by an accredited testing laboratory in accordance with KS M 6750 (rubber tire for car) or certificate of equivalent
Consumer Information		Verification of submitted documents

### 4.1 General Matters

#### 4.1.1

The number of test sample shall be in accordance with the test method of each test item, and if there is any particular regulation, one test sample shall be required for each applied product. However, in case of test sample for measuring weight, test samples for wear-proof rate shall be used for measuring an average value of three test samples collected from different lot.

#### 4.1.2

Test samples shall be collected at random by a certification institute from products in market or those in storage at the production site.

#### 4.1.3

Test result shall be numerically set according to according to KS Q 5002 (Statistical interpretation method of the data – Part 1: Statistical description of the data).

### 4.2 Test Methods and Test Conditions of Rolling Resistance

#### 4.2.1

Force method of SAE-J1269 (Rolling resistance measurement procedure for passenger car, light truck, and highway truck and bus truck) shall be applied as test method

#### 4.2.2

Test pressure shall be in accordance with the permanent pressure by regulated pressure method, and test and output value conditions shall be as follows.

#### 4.2.2.1 For Truck/Bus

Standard	Test Condition			Output Condition		
	Basic Pressure [kg/cm <sup>2</sup> ]	Maximum Load <sup>1)</sup> [kg]	Rim <sup>2)</sup> [J]	Basic Pressure [kg/cm <sup>2</sup> ]	Load [kg]	Temperature [°C]
11R22.5 16PR	8.4	2,725	8.25	7.7	2,104	24
12R22.5 16PR	8.4	3,075	9.0	7.7	2,293	24

Note 1) Maximum load shall apply the standard of ETRTO (The European tire & rim technology organization).

Note 2) Rim shall apply the requirement of TRA (Tire & rim association).

#### 4.2.2.2 For Light Truck

Standard	Test Condition			Output Condition		
	Basic Pressure [kg/cm <sup>2</sup> ]	Maximum Load <sup>1)</sup> [kg]	Rim <sup>2)</sup> [J]	Basic Pressure [kg/cm <sup>2</sup> ]	Load [kg]	Temperature [°C]
185R14	3.8	730	5.5	3.8	584	24 °C
195R14	4.6	900	5.5	4.6	720	24 °C
195R15	4.6	900	5.5	4.6	720	24 °C
500R12	4.6	465	3.5	4.6	372	24 °C

Note 1) Maximum load shall apply the standard of ETRTO (The European tire & rim technology organization).

Note 2) Rim shall apply the requirement of TRA (Tire & rim association).

## 5. Reasons for Certification

“Fuel and resource saving”

## **Common Criteria, Notice No. 2012-36, the Ministry of Environment**

1. Eco-label products must follow the following provisions with regard to the proper treatment of environmental pollution substances, such as air and water wastes and noxious chemical substances emitted in the process of manufacturing or service operation.

A. When first applying for certification, the product manufacturer should observe the environment related laws and agreements pertaining to the region where the production factory or the place of service operation is located for a period of one year prior to the date of application. Any case of violation of the penalty clause will be verified by confirming documents involved during a period of one year to the date of application. Regarding any violation not related to the penalty clause, confirmation will be made on the completion of appropriate measures.

B. A person who has received a certification of eco-labeling shall observe the environment related laws and agreements pertaining to the region where the production factory or the place of service operation is located during the period of certification. However, regarding any violation besides a penalty, confirmation will be made on the completion of appropriate measures.

2. As a general rule, information for consumers shall be indicated on the surface of the product in such a way not to be easily erased. However, in case that indication on the surface of the product is impossible or undesirable, it can be indicated on the appropriate part such as product packaging, product guidebook and user's manual that consumers can recognize. However, the service information should be indicated inside and outside of the place of service operation. In case that indication inside and outside of the place of service operation is impossible or undesirable, it can be indicated on the appropriate part such as an agreement, letter of delivery, letter of guarantee, and PR materials that consumers can recognize.

3. In order to establish fair trade and to protect consumer, the applicant for eco-label and the holder of eco-label license shall observe the Act on the Fairness of

Indication and Advertisement with respect to the environmental aspects of the product.

4. For Various standards referred in the certification criteria by target product, the latest revised edition applies at the date of application, if not specified otherwise.

5. In applying the quality related criteria for each target product, if no standard is available that can be applied as the quality criteria, the president of Korea Environmental Industry & Technology Institute (KEITI) (hereafter referred to as "president of KEITI") may establish and operate the quality criteria for the product involved after review by a competent committee.