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**Fire-retardant tyres**

阻燃轮胎

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## Table of Contents

|                                |   |
|--------------------------------|---|
| Foreword.....                  | 3 |
| 1 Scope.....                   | 4 |
| 2 Normative references.....    | 4 |
| 3 Terms and definitions .....  | 4 |
| 4 Special mark .....           | 5 |
| 5 Technical requirements ..... | 5 |
| 6 Test methods.....            | 6 |

# Fire-retardant tyres

## 1 Scope

This document specifies the special mark, technical requirements, and related performance test methods for fire-retardant tyres.

This document is applicable to truck tyres and passenger car tyres with fire-retardant performance requirements.

## 2 Normative references

The contents of the following documents, through normative references in this text, constitute indispensable provisions of this document. Among them, for dated references, only the edition corresponding to that date applies to this document. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 2941 Rubber - General procedures for preparing and conditioning test pieces for physical test methods

GB/T 6326 Tyre terms and definitions

GB/T 10707 Rubber - Determination of the burning

## 3 Terms and definitions

The terms and definitions defined in GB/T 6326 and the following ones apply to this document.

### 3.1

#### Fire-retardant tyre

A tyre which self-extinguishes when away from the fire under the specified test conditions.

### 3.2

#### Oxygen index

The minimum oxygen concentration (expressed in volume fraction) which maintains the combustion of rubber materials in a mixed gas stream of oxygen

compound, the measured oxygen index of tread rubber and sidewall rubber shall not be less than 24%.

## **6 Test methods**

### **6.1 Parking of test tyre sample**

Before the test, the finished tyre shall be parked in a test environment of 18 °C~36 °C. The parking time shall not be less than 24 h.

### **6.2 Test of tyre fire-retardant performance**

#### **6.2.1 Test equipment**

Portable flamethrower (the combustion temperature of outer flame is 1250 °C~1350 °C, such as butane flamethrower); stopwatch.

#### **6.2.2 Test procedure**

**6.2.2.1** Erect the test tyre (not inflated) vertically and fix it on the concrete or cement floor.

**6.2.2.2** Take a point in the middle of the crown on the cut surface of the tyre crown perpendicular to the ground (avoid the groove); use "+" to mark it (as shown in Figure 2).

**6.2.2.3** Take a point at the center of the sidewall directly above the tyre crown that is in contact with the ground; use "+" to mark it (as shown in Figure 2).

**6.2.2.4** Take a point at the bead heel directly above the tyre crown that is in contact with the ground; use "+" to mark it (as shown in Figure 2).

**6.2.2.5** Under the condition of not being close to the test tyre, after the flamethrower is activated and set to the maximum gear, vertically align the outer flame of the fire source at the "+" marking points to spray and start timing. After 10 s, immediately turn off the fire source and remove; observe the burning state at the marking points and make a judgment.

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