INTERNATIONAL STANDARD

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Third edition
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# Passenger car tyres — Spare unit substitutive equipment (SUSE)

*Pneumatiques pour voitures particulières — Équipements de substitution de roue de secours (SUSE)*

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# Contents

Page

# Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 31, *Tyres, rims and valves*, Subcommittee SC 3, *Passenger car tyres and rims*.

This third edition cancels and replaces the second edition (ISO 16992:2010), which has been technically revised through the following significant changes:

— new “extended mobility tyres” definition and pictogram added;

— “extended mobility system” definition renamed “SUSE system”;

— TPMS definition added;

— endurance testing conditions for run-flat tyres better defined with the aim to avoid interpretations while improving the test repeatability;

— new endurance test for extended mobility tyres added;

— Figure 3: symbol for internal support ring amended as per ISO TC 145/SC 3 recommendation to comply with ISO/IEC Directives (SPR letters removed).

# Introduction

In order to ensure unrestricted mobility, road vehicles should be equipped with fully efficient tyres in all positions.

Road vehicles are therefore traditionally provided with a spare unit intended to reinstate vehicle mobility in the event of loss of efficiency of one tyre. The spare unit can be either of the following:

— of the same type of the units normally equipping the vehicle, or

— of "temporary use" type, thus intended for use only under restricted conditions.

Some vehicles, however, can be constructed and provided with devices that can reinstate their mobility even in the absence of a spare unit on board. Various types of such devices (emergency solutions, products and systems) are available to users in order to ensure that they are able to continue their journey in the event of loss of efficiency of one or more tyres.

The term "spare unit substitutive equipment (SUSE)" (see 3.6) is used as a general name for all equipment intended to replace a spare unit on board the vehicle.

The term "SUSE system" (see 3.7) refers to the assembly of several independent but interacting components specified and approved by a system manager.

This document mainly concerns the SUSE systems for vehicles equipped with passenger car tyres, thus allowing driving to continue in restricted conditions after a loss of efficiency of at least one of the tyres of the vehicle.

This document specifies minimum performance levels for SUSE. It provides guidance when establishing objective requirements for a SUSE and allows the standard level of a given existing SUSE system to be determined.

It is recommended that for any on-road application of run-flat or extended mobility tyres, they be mounted on rims with humps on both inboard and outboard sides.

# Passenger car tyres — Spare unit substitutive equipment (SUSE)

## 1 Scope

This document describes spare unit substitutive equipment (SUSE) for passenger car tyres, which is designed to enable users to continue their journey (with or without a stop) in a reasonably safe manner.

NOTE 1 Certain equipment becomes effective automatically, thus avoiding the need to stop the vehicle immediately for inspection and corrective action.

This document is intended only to qualify the performance of SUSE systems. Its specifications only apply to SUSE systems that can permit the extended mobility of the vehicle.

NOTE 2 Other types of SUSE are described in Annexes A and B.

The specifications in this document apply from the moment the SUSE system becomes effective, with the driver continuing to control the vehicle (in terms of speed and direction) in an attempt to reach an appropriate place for servicing.

The following are within the scope of this document:

— the description of the various types of SUSE;

— the description and performance levels of complete SUSE systems.

NOTE 3 The performance level that the user reasonably has the right to expect, as well as the restrictive conditions placed upon that level, can vary to a large degree depending on the equipment installed and on the real operating conditions of the tyre in flat-tyre running mode.

The following are outside the scope of this document:

— the vehicle to be equipped;

— the tyre while operating in inflated mode;

— the characteristics of the pressure survey device and of the warning function relative to the inflated mode or to the partially deflated mode due to slow pressure losses;

— the transitory phase, if any, before the equipment becomes effective;

— the inspection, assessment, and the servicing of the SUSE system, after it has been activated in flat tyre running mode.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 4000 (all parts), *Passenger car tyres and rims*

ISO 10191, *Passenger car tyres — Verifying tyre capabilities — Laboratory test methods*