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Road vehicles — Test of vehicle air braking systems with a permissible mass of over 3,5 t — Acquisition and use of reference values using a roller brake tester

Véhicules routiers — Essais des systèmes de freinage à air comprimé des véhicules de masse admissible de plus de 3,5 t — Acquisition et utilisation des valeurs de référence en utilisant un banc de freinage à rouleaux

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 21995 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 2, *Braking systems and equipment*.

Introduction

UNECE Regulation No.13, paragraph 5.1.4.6 (on reference braking forces) requires, as part of the type approval process, that the manufacturer provides the Type 0 braking performance figures as reference values arranged in a tabular or graphical form.

The purpose of reference values is to make adequate data available for conducting periodical vehicle tests, which are most easily performed on roller test benches. Within Council Directive 96/96/EC, testing in service is required to achieve a heavy truck brake efficiency of at least 45 %, and this can be performed by road testing or, more conveniently, on roller brake test benches. The roller brake tests are based on the available reference values declared by the vehicle manufacturer at type approval.

NOTE The minimum requirements are:

— 50 % in the case of vehicles of categories M2, M3, N2, N3, O3 and O4, except semi-trailers;

— 45 % in the case of semi-trailers.

This International Standard provides a procedure for testing both motor vehicles and trailers in service to the level of performance required for periodical technical inspection (PTI).

It is possible that the values will need adjustment to reflect national or international in-service requirements.

Road vehicles — Test of vehicle air braking systems with a permissible mass of over 3,5 t — Acquisition and use of reference values using a roller brake tester

1 Scope

This International Standard provides a method for the acquisition of suitable braking reference values that the manufacturer is required to provide, and for the use of these reference values in periodical technical inspection (PTI) on air brake systems.

2 Normative references

The following referenced documents are indispensable for the application 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.

UNECE Regulation No.13, Rev. 6, 2008, *Uniform provisions concerning the approval of vehicles of categories M, N and O with regard to braking*

3 Terms, definitions and symbols

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1.1
braking system
combination of parts which either progressively reduces the speed of the moving vehicle, or brings the vehicle to a halt and/or holds it stationary, or fulfils both functions

3.1.2
brake
part of a **braking system** (3.1.1) in which the forces opposing the movement, or tendency to movement, of the vehicle are developed

3.1.3
braking force
force at the contact surface between a wheel and the ground, produced by the effect of a braking system, which opposes the rotation of the wheel or the tendency for movement of the vehicle

NOTE The force between the tyre and the rotating roller, produced at the circumference of the tyre during braking, opposes the force generated at the interface by the roller brake tester attempting to cause continuing rotation of the wheel.

3.1.4
total braking force
sum of the braking forces at all wheels of a vehicle