INTERNATIONAL STANDARD

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Road vehicles — Brake lining friction materials — Standard wear test procedure for commercial vehicles with air brakes

Véhicules routiers — Matériaux de friction pour garnitures de freins — Méthode normale d'essai d'usure pour véhicules industriels équipés de systèmes de freinage pneumatiques

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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 26866 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 2, *Braking systems and equipment*.

Introduction

The huge variety of wear tests introduced by different truck and trailer manufacturers is highly time-consuming and leads to multiple evaluations of the same pad material on the same application. In view of the fact that test procedures are different, results do not correspond with each other.

Wear testing in general is very time-consuming and hence very costly. This International Standard has been developed in an effort to characterize friction materials that are used for a wide array of applications. Being a block wear schedule that comprises different energy and temperature levels, it provides a good general characterization of the wear behaviour of a friction material.

This International Standard standardizes all different procedures into one single procedure that covers all wear requirements of interest whilst having a minimum testing duration.

In the process of harmonizing commercial vehicle applications, the standardization of performance testing friction materials is a top priority.

The varied conditions under which the friction material is tested and evaluated ensures a wide spectrum of data, which is critical during the various phases of product life, such as product and manufacturing process development, production validation, quality control, product auditing and field issues evaluation.

This International Standard is intended to be used in conjunction with other applicable standards or test procedures (ISO, SAE, JIS/JASO, Federal Codes or Regulations, and other project or company-specific testing programmes) to fully assess the adequacy of a friction material for use in a certain application, market or vehicle platform. This International Standard does not include performance requirements related to stopping distance or braking force distribution, under different vehicle conditions of speed, temperature, tyre-to-road adhesion, loads and operating conditions of the braking system, as indicated in Federal Codes or Regulations.

This International Standard has been developed as part of the friction material global harmonization programme outlined in ISO 15484, and results from close collaboration with major car manufacturers, brake system and component manufacturers, leading testing services, and standards development organizations such as SAE and JIS/JASO.

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1 Scope

This International Standard applies to commercial vehicles with air brakes in the categories M2, M3, N2, N3, O3, and O4, as specified in UNECE R.E.3.

This International Standard applies during product development, product prototypes, product specification or validation, and ongoing series production, as defined in ISO 15484.

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 R.E.3, *Consolidated resolution on the construction of vehicles*

ISO 611:2003, *Road vehicles — Braking of automotive vehicles and their trailers — Vocabulary*

ISO 1176, *Road vehicles — Masses — Vocabulary and codes*

ISO 3833, *Road vehicles — Types — Terms and definitions*

ISO 11157:2005, *Road vehicles — Brake lining assemblies — Inertia dynamometer test method*

ISO 15484:2008, *Road vehicles — Brake lining friction materials — Product definition and quality assurance*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in UNECE R.E.3, ISO 611, ISO 1176, ISO 3833, ISO 15484 and the following apply.

3.1
air brake system
braking system in which control and energy are transmitted from the point of application to the foundation brakes by air/pneumatic transmission devices

3.2
axle load
technically feasible maximum design total mass specified by the vehicle or axle manufacturer and acknowledged by the technical services

NOTE This mass can exceed the “maximum authorised total mass” permitted by national regulations. Unless otherwise specified by the test requestor, the axle loads indicated in Table 1 are used to determine the test inertia.