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

*Véhicules routiers — Matériaux de friction pour garnitures de freins —
Mode opératoire d'essai des performances normalisées pour les
véhicules utilitaires munis de freins à air comprimé*



PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.



COPYRIGHT PROTECTED DOCUMENT

© ISO 2009

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword.....	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions.....	2
4 Symbols	3
5 Sampling.....	3
6 Test method.....	3
6.1 Principle	3
6.2 Test equipment and parts	3
6.3 Test conditions	4
6.4 Test procedure for disc brake systems.....	5
6.5 Test procedure for drum brake systems.....	9
6.6 Expression of results	12
7 Test report	13
7.1 Tabular report.....	13
7.2 Summary of results	13
7.3 Lining data sheet	13

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 26865 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 2, *Braking systems and equipment*.

Introduction

The standardization of performance testing friction for commercial vehicle application is a major challenge for technical groups around the world in their efforts to harmonize procedures.

The diverse conditions under which the friction material is tested and evaluated ensure a wide spectrum of data, which is critical during the various phases of product life (i.e. product and manufacturing process development; production validation; quality control; product auditing; field issues evaluation).

This International Standard has been developed as part of the friction material global harmonization programme outlined in ISO 15484 and is the product of a close collaboration between major car manufacturers, brake system and component manufacturers, leading testing services and standards development organizations [e.g. SAE and JSAE (Japanese Society of Automotive Engineers)].

The introduction by various truck and trailer manufacturers of a wide range of performance tests has proven time-consuming and has led to multiple evaluations of the same friction material for the same application. The test results thus provided do not necessarily correspond with one another because the test procedures and test conditions are not the same.

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

1 Scope

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

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

When used in conjunction with other applicable standards or test procedures, this International Standard is intended to provide a complete assessment of a friction material's adequacy for use in a certain application, market or vehicle platform.

NOTE Applicable standards and test procedures include ISO, JIS/JASO (Japanese Industrial Standard/Japanese Automotive Standards Organization), SAE (Society of Automotive Engineers), Federal Codes or regulations, and other project or company-specific testing programmes.

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 specifies a single-ended inertia-dynamometer performance procedure, which is intended to standardize the various procedures for commercial vehicles equipped with air brakes into one unique procedure covering all performance requirements of interest.

The test sequence includes performance evaluation for the following conditions:

- performance test before and after bedding;
- brake fade after bedding and after moderate temperature;
- sensitivity to temperature, speed and pressure influence;
- downhill simulation;
- brake recovery.

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.

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