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Road vehicles — Brake linings — Compressive strain test methods

Véhicules routiers — Garnitures de freins — Méthode d'essai de la compressibilité

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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 6310 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 2, *Braking systems and equipment*.

This third edition cancels and replaces the second edition (ISO 6310:2001), which has been technically revised.

Introduction

The compressive response of a brake lining or pad is an important design parameter. It is useful for the evaluation of brake fluid displacement during a brake application, brake-pedal travel and the propensity of the brake for generating judder or noise. It is also part of the brake pad characterization and a parameter for quality control.

The purpose of the test methods described in this International Standard is to evaluate the compressive response or “compressibility” of friction materials or brake pad assemblies. The tests measure compressibility at ambient and elevated temperatures. During the elevated temperature portion of the test, the thermal transmission and response of the brake pad assembly are measured.

Road vehicles — Brake linings — Compressive strain test methods

1 Scope

This International Standard specifies a method for test and measurement of the compressive displacement of brake linings or brake pad assemblies due to loading and temperature. It also provides a test method to assess lining thermal swell and growth.

This International Standard applies to disc brake pad assemblies or coupon samples cut from the friction material.

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, *Road vehicles — Braking of automotive vehicles and their trailers — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 611 and the following apply.

3.1
compressibility
C
change in pad thickness or deflection, caused by a uniaxial compression load during the final loading cycle, to the maximum test pressure, which is measured in the same direction as the compression force, perpendicular to the friction surface

3.2
compressive strain
ε
ratio of the reduction in thickness of the brake lining, due to the compression load, to its initial thickness, which is measured in the direction of the application force, perpendicular to the friction surface