INTERNATIONAL STANDARD

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Rubber, vulcanized or thermoplastic — Determination of adhesion to metal — Two-plate method

Caoutchouc vulcanisé ou thermoplastique — Détermination de l'adhérence au métal — Méthode à deux plaques

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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 45, *Rubber and rubber products*, Subcommittee SC 2, *Testing and analysis*.

This sixth edition cancels and replaces the fifth edition (ISO 814:2011), of which it constitutes a minor revision to update the normative references in Clause 2 as well as the failure symbols in 9.2.

Rubber, vulcanized or thermoplastic — Determination of adhesion to metal — Two-plate method

WARNING 1 — Persons using this document should be familiar with normal laboratory practice. This document does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any national regulatory conditions.

WARNING 2 — Certain procedures specified in this document might involve the use or generation of substances, or the generation of waste, that could constitute a local environmental hazard. Reference should be made to appropriate documentation on safe handling and disposal after use.

1 Scope

This document specifies a method for determining the adhesion strength of rubber-to-metal bonds where the rubber part is assembled between two parallel metal plates, using the adhesive system under investigation.

The method is applicable primarily to test pieces, prepared in the laboratory under standard conditions, such as can be used to provide data for the development of rubber compounds and control of methods of manufacture.

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 5893, *Rubber and plastics test equipment — Tensile, flexural and compression types (constant rate of traverse) — Specification*

ISO 18899:2013, *Rubber — Guide to the calibration of test equipment*

ISO 23529, *Rubber — General procedures for preparing and conditioning test pieces for physical test methods*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at http://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

4 Principle

The test consists in measuring the force required to cause the rupture of a unit of standard dimensions, comprising rubber bonded to two parallel metal plates, the direction of the force being at 90° to the bonded surface.

5 Apparatus

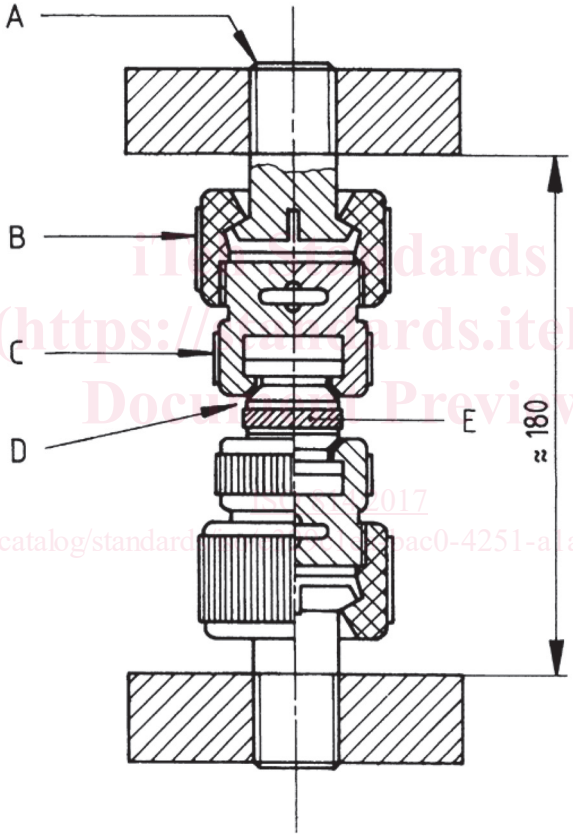
5.1 Tensile-testing machine, complying with the requirements of ISO 5893, capable of measuring force with an accuracy corresponding to class 2 as defined in ISO 5893, and with a rate of traverse of the moving grip of 25 mm/min ± 5 mm/min.

NOTE Inertia (pendulum) type dynamometers are apt to give results which differ because of frictional and inertial effects. An inertialess (for example, electronic or optical transducer) type dynamometer gives results which are free from these effects and is therefore preferred.

5.2 Fixtures, for holding the test pieces in the test machine (5.1), which permit accurate centring of the applied load during the test.

A suitable type of fixture is shown in Figure 1.

Dimensions in millimetres



a) Assembly of parts