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Rubber, unvulcanized — Determination of plasticity — Rapid-plastimeter method

Caoutchouc non vulcanisé — Détermination de la plasticité — Méthode au plastomètre rapide

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Foreword

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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 2007:2018), which has been technically revised.

The main changes are as follows:

— revision of subclause 5.3;

— addition of Annex A.

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Rubber, unvulcanized — Determination of plasticity — Rapid-plastimeter method

WARNING — 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 determine the applicability of any regulatory conditions before use.

1 Scope

This document specifies a method for the rapid determination of the plasticity of raw rubber and unvulcanized compounded rubber. It is applicable to the determination of the plasticity retention index (PRI) as specified in ISO 2930.

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 1795, *Rubber, raw natural and raw synthetic — Sampling and further preparative procedures*

ISO 18899, *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

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

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

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

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

3.1
plasticity number
measure of plasticity, based upon the height of a test piece after being subjected to deformation under specified conditions of compressive force, time and temperature

[SOURCE: ISO 1382:2020, 3.359]

4 Principle

A disc-shaped test piece is compressed rapidly between small parallel platens to a fixed thickness of 1 mm. The test piece is maintained at this compression for 15 s to enable it to reach approximate temperature equilibrium with the platens. After this period, the test piece is subjected to a constant compressive force of 100 N ± 1 N for 15 s. Its thickness at the end of this period is taken as the measure of plasticity.

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