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Third edition
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Rubber compounding ingredients — Carbon black — Determination of aggregate size distribution by disc centrifuge photosedimentometry

Ingrédients de mélange de caoutchouc — Noir de carbone — Détermination de la distribution dimensionnelle des agrégats par photosédimentométrie avec centrifugeuse à disque

Reference number
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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 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 3, *Raw materials (including latex) for use in the rubber industry*.

This third edition cancels and replaces the second edition (ISO 15825:2015), which has been technically revised:

— to correct Figure A.1;

— to update the precision data in Annex B following a new interlaboratory trial programme (ITP) conducted in 2015 and 2016.

Rubber compounding ingredients — Carbon black — Determination of aggregate size distribution by disc centrifuge photosedimentometry

1 Scope

This document specifies a method for determining the size distribution of carbon black aggregates, using a disc centrifuge photosedimentometer. This technique is based on the hydrodynamic behaviour of carbon black in a centrifugal field. The determination of the aggregate size distribution is important in the evaluation of carbon black used in the rubber industry.

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 1124, *Rubber compounding ingredients — Carbon black shipment sampling procedures*

ISO 3696, *Water for analytical laboratory use — Specification and test methods*

3 Terms and definitions

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

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

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

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

3.1 General terms

3.1.1
carbon black aggregate
discrete, rigid colloidal entity that is the smallest dispersible unit in a suspension

Note 1 to entry: It is composed of extensively coalesced particles.

3.1.2
spin fluid
inert liquid injected into the disc prior to the sample, through which aggregates sediment

Note 1 to entry: Alkaline conditions minimize agglomeration of dispersed aggregates in most cases.

3.1.3
dispersion fluid
liquid in which aggregates are dispersed