

Pigments and extenders - Methods of dispersion and assessment of dispersibility in plastics - Part 3: Determination of colouristic properties and ease of dispersion of black and colour pigments in polyethylene by two-roll milling

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 13900-3:2003 sisaldab Euroopa standardi EN 13900-3:2003 ingliskeelset teksti. Käesolev dokument on jõustatud 15.04.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 13900-3:2003 consists of the English text of the European standard EN 13900-3:2003. This document is endorsed on 15.04.2003 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.
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Käsitlusala: This part of this European Standard specifies a method of determining in polyethylene (PE) the colouristic properties of a test pigment relative to a standard, and the ease of dispersion DHPE of pigments from the differences in colour strength on dispersing colouring materials under various conditions	Scope: This part of this European Standard specifies a method of determining in polyethylene (PE) the colouristic properties of a test pigment relative to a standard, and the ease of dispersion DHPE of pigments from the differences in colour strength on dispersing colouring materials under various conditions
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ICS 83.040.30

Võtmesõnad:

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English version

Pigments and extenders - Methods of dispersion and assessment of dispersibility in plastics - Part 3: Determination of colouristic properties and ease of dispersion of black and colour pigments in polyethylene by two-roll milling

Pigments et matières de charge - Méthodes de dispersion et évaluation des caractéristiques de dispersibilité dans les plastiques - Partie 3: Détermination des propriétés colorimétriques et de la facilité de dispersion des pigments noirs et colorés dans le polyéthylène par calandrage sur bicylindre

Pigmente und Füllstoffe - Dispergierv Verfahren und Beurteilung der Dispergierbarkeit in Kunststoffen - Teil 3: Bestimmung der koloristischen Eigenschaften und der Dispergierhärte von Schwarz- und Buntpigmenten in Polyethylen im Walztest

This European Standard was approved by CEN on 12 December 2002.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Foreword

This document (EN 13900-3:2003) has been prepared by Technical Committee CEN/TC 298 "Pigments and extenders", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by August 2003, and conflicting national standards shall be withdrawn at the latest by August 2003.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This part of this European Standard specifies a method of determining in polyethylene (PE) the colouristic properties of a test pigment relative to a standard, and the ease of dispersion DH_{PE} of pigments from the differences in colour strength on dispersing colouring materials under various conditions.

Method A is appropriate for use with organic powder pigments and carbon black pigments in powder form, many of which are subject to compaction (reagglomeration under pressure), for inorganic pigments in powder form and for pigment preparations in powder or flake form.

Method B is appropriate for testing pigments and pigment preparations in granular form and for inorganic pigments in any form.

The ease of dispersion determined in this way is valid only for the dispersion equipment, dispersion conditions and dispersion medium being used. The use of test conditions differing from those specified may give different results; this applies both to the absolute magnitude and to the relation between values of the ease of dispersion of various pigments. The subscript DH_{PE} is therefore used to designate the value obtained as specified in this part of this European Standard.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 12877-1, *Colouring materials in plastics - Determination of colour stability to heat during processing of colouring materials in plastics - Part 1: General introduction*.

EN ISO 787-24:1995, *General method of tests for pigments and extenders - Part 24: Determination of relative tinting strength of coloured pigments and relative scattering power of white pigments - Photometric methods (ISO 787-24:1985)*.

EN ISO 15528, *Paints, varnishes and raw materials for paints and varnishes - Sampling (ISO 15528:2000)*.

ISO 7724-2:1984, *Paints and varnishes - Colorimetry - Part 2: Colour measurement*.

3 Term and definition

For the purposes of this European Standard the following term and definition applies.

3.1

ease of dispersion [DH_{PE}]

measure of the rate at which or the degree to which a pigment or extender achieves a given level of dispersion when dispersed in a plastics material. The DH_{PE} is derived from the increase in colour strength achieved by two-roll milling as specified in 8.2, relative to the colour strength achieved as specified in 8.1

4 Principle

Using a two-roll mill, the pigment under test is dispersed at an appropriate temperature in the polymer. The cooled milled sheet obtained in this way is then subjected to the higher shearing forces resulting from two-roll milling at a narrower gap width. The resulting increase in colour strength (see EN 12877-1) is a measure of the ease of dispersion DH_{PE} .