

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

Colouring materials in plastics - Determination of  
colour stability to heat during processing of colouring  
materials in plastics - Part 1: General introduction

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 12877-1:2000 sisaldab Euroopa standardi EN 12877-1:1999 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 17.03.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 12877-1:2000 consists of the English text of the European standard EN 12877-1:1999.</p> <p>This document is endorsed on 17.03.2000 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
--	---

<p><b>Käsitlusala:</b></p> <p>This Part of EN 12877 gives a general introduction to the most widely used methods for determination of colour stability during processing of colouring materials in plastics under the influence of heat. It also specifies those details which are common to the various test methods described in subsequent Parts of EN 12877. The choice of the test method depends on the plastics material to be coloured, the method of processing and the end-use requirements.</p>	<p><b>Scope:</b></p> <p>This Part of EN 12877 gives a general introduction to the most widely used methods for determination of colour stability during processing of colouring materials in plastics under the influence of heat. It also specifies those details which are common to the various test methods described in subsequent Parts of EN 12877. The choice of the test method depends on the plastics material to be coloured, the method of processing and the end-use requirements.</p>
--	--

ICS 83.040.30

Võtmesõnad:

**English version**

Colouring materials in plastics

**Determination of colour stability to heat during  
processing of colouring materials in plastics**

Part 1: General introduction

Matières colorantes dans les plastiques – Détermination de la stabilité de la couleur à la chaleur au cours de la mise en œuvre des matières colorantes dans les plastiques – Partie 1: Généralités

Farbmittel in Kunststoffen – Bestimmung der Beständigkeit der Farbe gegen Hitze beim Verarbeiten von Farbmitteln in Kunststoffen – Teil 1: Allgemeine Einleitung

This European Standard was approved by CEN on 1999-09-05.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

The European Standards exist 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

**CEN**

European Committee for Standardization  
Comité Européen de Normalisation  
Europäisches Komitee für Normung

**Central Secretariat: rue de Stassart 36, B-1050 Brussels**

## Foreword

This European Standard 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 April 2000, and conflicting national standards shall be withdrawn at the latest by April 2000.

Annex A (informative) describes a general method for preparing test specimens having standard depth of shade and annex B (informative) comprises tables listing the coefficients required in the calculations.

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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## Introduction

This is one of a number of Parts of EN 12877 dealing with methods for determining the colour stability of colouring materials under the influence of the thermal stress encountered during plastics processing. In this context, the common expressions "heat stability" and "heat resistance" are widely used.

Colour changes may occur during processing not only because of thermal degradation of colouring materials and of plastics but also as a result of other changes to them, e.g. solubility in the polymer, changes in dispersion level, recrystallization or crystal modification, and from other complex interactions with the polymer itself or other additives present.

Colour stability during processing is one of the most important performance criteria required by the processor of coloured plastics materials. However, absolute values for colour stability of colouring materials during processing cannot be established.

The test methods described in EN 12877 allow appropriate procedures, conditions and determination criteria to be agreed upon according to the plastics material to be coloured and the processing method. The resulting comparative data is useful in colouring material selection and also in determining their processing stability in the end-use polymer under practical processing conditions.

The term colouring material as used here includes single pigments, dyestuffs and extenders as well as products produced from them such as masterbatches, colour pastes, pigment blends and other pigment preparations designed for use in plastics materials.

## 1 Scope

This Part of EN 12877 gives a general introduction to the most widely used methods for determination of colour stability during processing of colouring materials in plastics under the influence of heat.

It also specifies those details which are common to the various test methods described in subsequent Parts of EN 12877. The choice of the test method depends on the plastics material to be coloured, the method of processing and the end-use requirements.

## 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.

EN 12877-2	Colouring materials in plastics - Determination of colour stability to heat during processing of colouring materials in plastics - Part 2: Determination by injection moulding
EN 12877-3	Colouring materials in plastics - Determination of colour stability to heat during processing of colouring materials in plastics - Part 3: Determination by oven test
EN 12877-4	Colouring materials in plastics - Determination of colour stability to heat during processing of colouring materials in plastics - Part 4: Determination by two-roll milling
EN 20105-A02	Textiles - Tests for colour fastness - Part A02: Grey scale for assessing change in colour (ISO 105-A02; 1993)