Plastics - Methods for determining the density of non-cellular plastics - Part 3: Gas pyknometer method (ISO 1183-3:1999)

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EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN ISO 1183-3:2001 sisaldab Euroopa standardi EN ISO 1183-3:1999 ingliskeelset teksti. Käesolev dokument on jõustatud 17.03.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN ISO 1183-3:2001 consists of the English text of the European standard EN ISO 1183-3:1999. This document is endorsed on 17.03.2000 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This part of ISO 1183 specifies a method for the determination of the density or the specific volume of solid non-cellular plastics of any shape which do not contain closed pores.	**Scope:** This part of ISO 1183 specifies a method for the determination of the density or the specific volume of solid non-cellular plastics of any shape which do not contain closed pores.

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Plastics

Methods for determining the density of non-cellular plastics

Part 3: Gas pyknometer method
(ISO 1183-3 : 1999)

Plastiques – Méthodes pour déterminer la masse volumique des plastiques non alvéolaires – Partie 3: Méthode utilisant un pycnomètre à gaz (ISO 1183-3 : 1999)

Kunststoffe – Bestimmung der Dichte von nicht verschäumten Kunststoffen – Teil 3: Gas-Pyknometer-Verfahren (ISO 1183-3 : 1999)

This European Standard was approved by CEN on 1999-08-22.

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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.

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CEN

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

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

Foreword

International Standard

ISO 1183-3:1999 Plastics – Methods for determining the density of non-cellular plastics – Part 3: Gas pyknometer method,

which was prepared by ISO/TC 61 'Plastics' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 249 'Plastics', the Secretariat of which is held by IBN, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by March 2000 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

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.

Endorsement notice

The text of the International Standard ISO 1183-3 : 1999 was approved by CEN as a European Standard without any modification.

Contents

Introduction

This part of ISO 1183 is one of a series dealing with methods of measuring the density of solid non-cellular plastics. The values obtained using this part of ISO 1183 are expected to be comparable to those obtained using the other parts.

Density measurements may be used to investigate variations in the physical structure or the molecular order of materials. Such measurements are widely used to determine the degree of crystallinity of polymers. In addition, they may be used to determine the amount of filler present.

The density of a plastic material may depend on any conditioning or thermal treatment which the material has undergone.

The physical structure of a polymer can change with time and temperature. Its volume is also a temperature-dependent property. This means that the density may vary with time and/or temperature.

WARNING — The use of this part of ISO 1183 may involve hazardous materials, operations or equipment. This part of ISO 1183 does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user of this part of ISO 1183 to establish appropriate health and safety practices and to determine the applicability of any regulatory limitations prior to use.

1 Scope

This part of ISO 1183 specifies a method for the determination of the density or the specific volume of solid non-cellular plastics of any shape which do not contain closed pores.

2 Terms, definitions, symbols, units and abbreviated terms

For the purposes of this part of ISO 1183, the following terms, definitions, symbols, units and abbreviated terms apply:

2.1
test material
material to be tested

2.2
test specimen
that part of the test material actually subjected to the test

2.3
mass
m
quantity of matter contained in a body

NOTE Mass is expressed in kilograms (kg) or grams (g).

2.4
weight
W
force produced by gravity acting on a mass

NOTE 1 Since gravity varies with location, so does weight.

NOTE 2 Weight is expressed in newtons (N).