Plastid. Küllastumata polüester- ja epoksüvaigud. Üldise mahukahanemise määramine

Plastics - Unsaturated polyester and epoxy resins - Determination of overall volume shrinkage

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN ISO 3521:2000 sisaldab Euroopa standardi EN ISO 3521:1999 ingliskeelset teksti. Käesolev dokument on jõustatud 11.01.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN ISO 3521:2000 consists of the English text of the European standard EN ISO 3521:1999. This document is endorsed on 11.01.2000 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 standard specifies a method for the determination of the overall volume shrinkage of unsaturated polyester and epoxy resins	**Scope:** This standard specifies a method for the determination of the overall volume shrinkage of unsaturated polyester and epoxy resins

ICS 83.080.10

Võtmesõnad: castings, determination, epoxy resins, mechanical tests, plastics, polyester resins, shrinkage, tests

EUROPEAN STANDARD
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English version

Plastics

Unsaturated polyester and epoxy resins

Determination of overall volume shrinkage
(ISO 3521 : 1997)

Plastiques – Résines d'époxydes et de polyesters non saturés – Détermination du retrait global en volume (ISO 3521 : 1997)

Kunststoffe – Ungesättigte Polyester und Epoxidharze – Bestimmung der Gesamtvolumenschwindung (ISO 3521 : 1997)

This European Standard was approved by CEN on 1999-05-06.

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.

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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 3521 : 1997 Plastics – Unsaturated polyester and epoxy resins – Determination of overall volume shrinkage,

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 December 1999 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 3521 : 1997 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to international publications are listed in Annex ZA (normative).

1 Scope

This International Standard specifies a method for the determination of the overall volume shrinkage of unsaturated polyester and epoxy resins.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 1675:1985, *Plastics — Liquid resins — Determination of density by the pyknometer method.*

3 Definition

For the purposes of this International Standard, the following definition applies.

3.1 overall volume shrinkage: The sum of the shrinkage during curing and the shrinkage after curing of a casting when cooled to ambient temperature.

4 Principle

The overall volume shrinkage is calculated from the specific gravity of a last specimen before and after curing.

First, the specific gravity of the resin composition is determined

a) at the initial temperature of mixing of the components, excluding the initiators normally added to unsaturated polyesters (see 6.1.3, note 1);

b) at 23 °C after curing and conditioning of the last specimen.

The overall volume shrinkage is then calculated as a percentage of the change in the specific gravity before and after curing, as follows:

$$\text{Overall volume shrinkage} = \frac{\text{Uncured specific gravity} - \text{Cured specific gravity}}{\text{Uncured specific gravity}} \times 100$$