### Reinforced plastics composites -Specifications for pultruded profiles -Part 3: Specific requirements

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### **EESTI STANDARDI EESSÕNA**

### **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 13706-3:2003 sisaldab Euroopa standardi EN 13706-3:2002 ingliskeelset teksti.

Käesolev dokument on jõustatud 18.02.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 13706-3:2003 consists of the English text of the European standard EN 13706-3:2002.

This document is endorsed on 18.02.2003 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 3 of EN 13706 defines the specification of pultruded profiles. The specification defines those properties, which shall be specified and the level to be obtained for each grade of profile. The specification defines grades where the short-form code, Exx, is related to the Effective Flexural Modulus of the profile measured by testing a length of the complete profile

### Scope:

This Part 3 of EN 13706 defines the specification of pultruded profiles. The specification defines those properties, which shall be specified and the level to be obtained for each grade of profile. The specification defines grades where the short-form code, Exx, is related to the Effective Flexural Modulus of the profile measured by testing a length of the complete profile

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**Võtmesõnad:** composite materials, fitness for purpose, operating requirements, plastics, properties, reinforced materials, reinforced plastics, specification (approval), specifications

## EUROPEAN STANDARD NORME EUROPÉENNE

**EUROPÄISCHE NORM** 

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#### **English version**

## Reinforced plastics composites - Specifications for pultruded profiles - Part 3: Specific requirements

Composites en plastiques renforcés - Spécifications des profilés pultrudés - Partie 3: Exigences pariculières

Verstärkte Kunststoffverbundwerkstoffe - Spezifikationen für pultrudierte Profile - Teil 3: Besondere Anforderungen

This European Standard was approved by CEN on 14 September 2002.

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 Management Centre or to any CEN member.

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.

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



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

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### **Foreword**

This document EN 13706-3:2002 has been prepared by Technical Committee CEN/TC 249 "Plastics", the secretariat of which is held by IBN.

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 2003, and conflicting national standards shall be withdrawn at the latest by April 2003.

Part 3 of this European Standard, EN 13706, defines the specification of pultruded profiles. The specification defines those properties, which shall be specified and the level to be obtained for each grade of profile. Two grades; E23 and E17 are defined.

EN 13706 consists of the following parts, under the general title *Reinforced plastics composites - Specifications for pultruded profiles*.

- Part 1: Designation
- Part 2: Methods of tests and general requirements
- Part 3: Specific requirements

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, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

### 1 Scope

- **1.1** This Part 3 of EN 13706 specifies the specification of pultruded profiles. The specification defines those properties, which shall be specified and the level to be obtained for each grade of profile.
- **1.2** The specification specifies grades where the short-form code, Exx, is related to the Effective Flexural Modulus of the profile measured by testing a length of the complete profile.

Two grades; E23 and E17 are defined.

NOTE Other grades can be introduced at future revisions of the standard.

- **1.3** The properties, that shall be achieved for each class of profile are given in Table 1. Other properties that can be reported are listed in Table 2.
- **1.4** Test methods to be used to determine properties related to the suitability of the profile for specific applications are referenced in clause 4.

### 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 ISO 527-4, Plastics - Determination of tensile properties - Part 4: Test condition for isotropic and orthotopic fibre-reinforced plastics composites (ISO 527-4:1997).

EN ISO 14125, Fibre-reinforced plastic composites - Determination of flexural properties (ISO 14125:1998).

EN ISO 14130, Fibre-reinforced plastic composites - Determination of apparent interlaminar shear by short-beam method (ISO 14130:1997).

EN 13706-2:2002, Reinforced plastic composites — Specification for pultruded profiles — Part 2: Methods of test and general requirements.

### 3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given EN 13706-2 apply.

### 4 Specification

### 4.1 Obligatory specified properties

For each grade of pultrusion profile manufactured in accordance with this specification the manufacture shall meet all the requirements for all the properties included in Table 1.

Measurement of the property requirement 1.1 in Table 1 is undertaken on a test length of the full section of the profile but is not applicable to solid, flat sections. Measurement of the property requirements in 1.2 to 1.10 in Table 1 are undertaken using coupons cut from the profile or from a test plate prepared according to clause 6 of EN 13706-2:2002.