# Reinforcements - Specifications for multi-axial multi-ply fabrics - Part 3: Specific requirements

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# **EESTI STANDARDI EESSÕNA**

# **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 13473-3:2001 sisaldab Euroopa standardi EN 13473-3:2001 ingliskeelset teksti.

Käesolev dokument on jõustatud 19.10.2001 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 13473-3:2001 consists of the English text of the European standard EN 13473-3:2001.

This document is endorsed on 19.10.2001 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 13473 is a specification of multi-axial multi-ply fabrics made from reinforcement yarns, tows, rovings, fibre fleeces, films, foams or other materials which are intended to provide reinforcement in compostie materials and which is bound to a multi-ply construction. The specification defines those parameters which are required for a particular application or processing method.

# Scope:

This part 3 of EN 13473 is a specification of multi-axial multi-ply fabrics made from reinforcement yarns, tows, rovings, fibre fleeces, films, foams or other materials which are intended to provide reinforcement in compostie materials and which is bound to a multi-ply construction. The specification defines those parameters which are required for a particular application or processing method.

ICS 59.100.99, 83.120

**Võtmesõnad:** materials, multi-layer, multi-pass weld joints, non-woven cloth, product specification, properties, reinforcement fibres, reinforcing material, rovings, sheets, spacers, specification, specification (approval), specifications, surface patterns, textile products

# EUROPEAN STANDARD NORME EUROPÉENNE

# EN 13473-3

EUROPÄISCHE NORM

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### **English version**

# Reinforcement - Specifications for multi-axial multi-ply fabrics - Part 3: Specific requirements

Renfort - Spécifications pour les tissus multi-axiaux multicouches - Partie 3: Exigences spécifiques

Verstärkungen - Spezifikation für Multiaxialgelege - Teil 3: Besondere Anforderungen

This European Standard was approved by CEN on 10 May 2001.

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



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

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

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# **Foreword**

This European Standard 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 December 2001, and conflicting national standards shall be withdrawn at the latest by December 2001.

This standard is one part of EN 13473 "Reinforcement – Specifications for multi-axial multi-ply fabrics" which is constructed as follows :

- Part 1 : Designation
- Part 2 : Methods of test 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, Luxer. France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

# 1 Scope

This Part 3 of EN 13473 is a specification of multi-axial multi-ply fabrics made from reinforcement yarns, tows, rovings, fibre fleeces, films, foams or other materials which are intended to provide reinforcement in composite materials and which is bound to a multi-ply construction. This specification defines those parameters which are required for a particular application or processing method.

The parameter specifications do not define absolute or nominal values for any parameter. The values for specified parameters are defined by the application. This specification defines the test methods which shall be used to determine the values and tolerances for each specified parameter to be controlled by the textile manufacturer.

The parameters which shall be defined in the technical specification of multi-axial multi-ply fabrics are defined in clause 4 of this Part.

# 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 13473-1, Reinforcement – Specifications for multi-axial multi-ply fabrics – Teil 1: Designation

EN 13473-2:2001, Reinforcement – Specifications for multi-axial multi-ply fabrics – Teil 2: Methods of test and general requirements

ISO 472, Plastics – Vocabulary

ISO 3374, Reinforcement products - Mats and fabrics - Determination of mass per unit area

ISO 5025, Reinforcement products - Woven fabrics - Determination of width and length

## 3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 13473-1, EN 13473-2 and ISO 472 apply.

# 4 Parameter specifications

### 4.1 General

For each reinforcing multi-axial multi-ply fabric the nominal values of the parameters shall be defined in accordance to the following division into three groups: The parameters and tolerances in group 1 shall be designated and controlled by the textile manufacturer. The parameters in group 2 shall be designated but not controlled by the textile manufacturer. The parameters of group 3 neither have to be designated nor controlled by the textile manufacturer, but can be optionally agreed.

# 4.2 Parameters to be designated and controlled (group 1)

Table 1 describes the test methods of the parameters which need to be designated and controlled. In addition the tolerances for the single parameter are defined. Parameters for special applications may differ from the tolerance values and have to be agreed.