

Kummi- ja plastitöötlusmasinad. Ekstruuderid ja ekstrusiooniliinid. Osa 1: Ekstruuderite ohutusnõuded

Rubber and plastics machines - Extruders and
extrusion lines - Part 1: Safety requirements for
extruders

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 1114-1:1999 sisaldab Euroopa standardi EN 1114-1:1996 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 23.11.1999 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 1114-1:1999 consists of the English text of the European standard EN 1114-1:1996.</p> <p>This document is endorsed on 23.11.1999 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>
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<p>Käsitlusala:</p> <p>Võttes arvesse jaotises 4.1. loetletud ja jaotises 5 käsitletud ohtusid, määrab käesolev standard kindlaks konstruktsiooni- ja ehitusalased ohutusnõuded tiguekstruuderite kohta, mida kasutatakse plastide ja kummi jaoks.</p>	<p>Scope:</p>
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ICS 83.200

Võtmesõnad: ekstrusiooniseadmed, info, kummitöötlusmasinad, masinate ohutus, ohtlikud piirkonnad, ohtlikud seadmed, ohud, ohutusalased meetmed, plastitöötlusmasinad, utiliseerimine, õnnetuse vältimine

ICS 83.200

Descriptors: Rubber, machinery, plastics, extruders, safety requirements.

English version

Rubber and plastics machines

Extruders and extrusion lines

Part 1: Safety requirements for extruders

Machines pour le caoutchouc et les
matières plastiques – Extrudeuses et
lignes d'extrusion – Partie 1: Exigences de
sécurité pour les extrudeuses

Gummi- und Kunststoffmaschinen –
Extruder und Extrusionsanlagen – Teil 1:
Sicherheitsanforderungen für Extruder

This European Standard was approved by CEN on 1996-08-11.

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.

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 Central Secretariat has the same status as the official versions.

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

CEN

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

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 145 "Rubber and plastics machines - Safety", the secretariat of which is held by UNI.

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 1997, and conflicting national standards shall be withdrawn at the latest by April 1997.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s)

This is the first in a series of standards on the safety of extruders and extrusion lines.

Part 2 deals with die face pelletisers.

Part 3 deals with caterpillar, roller and belt take-offs.

Further parts are under discussion.

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this standard.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

0 Introduction

This European Standard is a type C Standard as defined in EN 292

The extent to which hazards are covered is indicated in the scope of this standard.

In addition, machinery should comply as appropriate with EN 292 for hazards which are not covered by this standard.

1 Scope

In respect of the hazards listed in 4.1 and dealt with in 5, this Standard specifies the safety requirements for the design and construction of the following kinds of screw type extruders for plastics and rubber:-

- single screw extruders
- twin screw extruders
- multi/multiple screw extruders
- hot feed extruders
- cold feed extruders
- vacuum extruders
- pin extruders

The Standard additionally covers the following feeding systems:

- hoppers
- single roller feeding systems
- double roller feeding systems
- crammer feeding systems

and the following ancillary equipment which form part of or are attached to the extruder:-

- screen changers
- melt/gear pumps
- melt ducts
- static mixers
- degassing equipment
- shear head devices
- extruder head

This standard only applies to extruder heads that give initial shape to the plasticised material.

This standard does not apply to extruders without screws eg:-

- piston extruders
- disc extruders
- roller extruders

This standard applies primarily to machines which are manufactured after the date of approval of this European Standard

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 last edition of the publication referred to applies.

EN 292-1

Safety of machinery – Concepts and general principles for design – Part 1: Basic terminology and methodology

EN 292-2

Safety of machinery – Basic concepts, general principles for design – Part 2: Technical principles and specifications (includes Amendment A1 : 1995)

EN 294

Safety of machinery – Safety distances to prevent danger zones from being reached by the upper limbs

EN 349

Safety of machinery – Minimum gaps to avoid crushing of parts of the human body

EN 418

Safety of machinery – Emergency stop equipment – Functional aspects

EN 563

Safety of machinery – Temperatures of touchable surfaces – Ergonomics data to establish temperature limit values for hot surfaces

prEN 574

Safety of machinery – Two-hand control devices

DIN EN 626-1

Reduction of risks to health from hazardous substances emitted by machinery – Part 1: principles and specifications for machinery manufacturers

prEN 811

Safety of machinery – Safety distances to prevent danger zones being reached by the lower limbs

prEN 953

Safety of machinery – General requirements for the design and construction of guards (fixed, movable)

prEN 954-1

Safety of machinery – Safety related parts of control systems – Part 1: General principles for design

DIN EN 1037

Safety of machinery – Isolation and energy dissipation – Prevention of unexpected start-up

DIN EN 1088

Safety of machinery – Interlocking devices associated with guards – Principles for design and selection

EN 60204-1

Electrical equipment of machines – Part 1: General requirements

EN 60529

Degrees of protection provided by enclosures (IP code)

EN ISO 3744

Acoustics – Determination of sound power levels of noise sources – Engineering methods for free field conditions over a reflecting plane

prEN ISO/DIS 4871

Acoustics – Declaration and verification of noise emission values of machinery and equipment

EN ISO 9614-1

Acoustics – Determination of sound power levels of noise sources using sound intensity – Part 1: Measurement at discrete points

EN ISO 11201

Acoustics – Noise emitted by machinery and equipment – Measurement of emission sound power levels at a work station and at other specified positions – Engineering method in an essentially free field over a reflecting plane (ISO 11201 : 1995)

EN ISO 11204

Acoustics – Noise emitted by machinery and equipment – Determination of emission sound power levels at a work station and at other specified positions – Method requiring environmental corrections (ISO 11204 : 1995)

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