Kummi- ja plastitöötlusmasinad. Reaktsioon-vormimismasinad. Osa 1: Doseerimis- ja segamissõlmede ohutusnõuded KONSOLIDEERITUD TEKST

Plastics and rubber machines - Reaction injection moulding machines - Part 1: Safety requirements for metering and mixing units CONSOLIDATED TEXT

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 1612-1:1999+A1:2008 sisaldab Euroopa standardi EN 1612-1:1997+A1:2008 ingliskeelset teksti.	This Estonian standard EVS-EN 1612-1:1999+A1:2008 consists of the English text of the European standard EN 1612-1:1997+A1:2008.
Standard on kinnitatud Eesti Standardikeskuse 25.09.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 25.09.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 06.08.2008.	Date of Availability of the European standard text 06.08.2008.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

ICS 83.200

Võtmesõnad: info, kindlakstegemine, kummitöötlusmasinad, masinate ohutus, ohud, ohutusalased meetmed, plastitöötlusmasinad, segamine, sisalduse määramine, utiliseerimine, vormimisseadmed, õnnetuse vältimine

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1612-1:1997+A1

August 2008

ICS 83.200

Supersedes EN 1612-1:1997

English Version

Plastics and rubber machines - Reaction moulding machines - Part 1: Safety requirements for metering and mixing units

Machines pour les matières plastiques et le caoutchouc - Machines de moulage par réaction - Partie 1: Prescriptions de sécurité relatives aux unités de dosage et de mélange

Kunststoff- und Gummimaschinen - Reaktionsgießmaschinen - Teil 1: Sicherheitsanforderungen an Misch- und Dosiereinheiten

This European Standard was approved by CEN on 11 July 1997 and includes Amendment 1 approved by CEN on 8 June 2008.

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 CEN 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 CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, 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

Ref. No. EN 1612-1:1997+A1:2008: E

Contents

Page

Foreword

This document (EN 1612-1:1997+A1:2008) has been prepared by Technical Committee CEN/TC 145 “Plastics and rubber machines”, 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 February 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

This document includes Amendment 1, approved by CEN on 2008-06-08. The main changes compared to the previous version are:

- Modification of the main element of the title
- Editorial modification of Annex ZA
- Addition of Annex ZB
- editorial changes of EN 292-1:1991 to EN ISO 12100-1 and of EN 292-2:1991 to EN ISO 12100-2:2003 in the following clauses: Introduction, 2, 7.

This document supersedes EN 1612-1:1997.

The start and finish of text introduced or altered by amendment is indicated in the text by tags ▌A1〉 〈A1▐.

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).

▌A1〉 For relationship with EU Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document. 〈A1▐

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

This European Standard is a type C Standard as defined in [A1] EN ISO 12100 [A1].

The extent to which hazards are covered is indicated in the scope of this standard. In addition, machinery shall comply as appropriate with [A1] EN ISO 12100 [A1] for hazards which are not covered by this standard.

1 Scope

This standard specifies the health and safety requirements for the design of metering and mixing units for reaction moulding machines. The significant and specific hazards are listed in clause 4 and are dealt with in this standard.

This standard does not cover completely the hazards arising from the use of highly flammable additives, for example, pentane used as a blowing agent (see 4.7), because these hazards depend to a large extent on the additives and processes used.

This standard does not cover the hazards arising from the assembly of separate units not supplied at the same time by the same manufacturer.

This standard does not cover the hazards arising from the movement of powered mixing heads; for these, see [A1] EN 1612-2 [A1].

This standard applies to metering and mixing units manufactured after the date of publication of this standard.

2 Normative references

This standard incorporates by dated or undated reference provisions from other publications. These normative references are cited at 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.

[A1] *deleted text* [A1]

EN 418:1992, *Safety of machinery - Emergency stop equipment, functional aspects - Principles for design*

EN 563, *Safety of machinery - Temperatures of touchable surfaces - Ergonomics data to establish limit values for hot surfaces*

EN 954-1, *Safety of machinery - Safety related parts of control systems - Part 1: General principles for design*

[A1] EN 1005 [A1], *Safety of machinery – Human physical performance*

EN 60204-1:1992, *Safety of machinery - Electrical equipment of machines - Part 1: General requirements* [A1] *(IEC 60204-1:1992, modified)* [A1]

[A1] EN ISO 12100-1, *Safety of machinery - Basic concepts, general principles for design - Part 1: Basic terminology, methodology (ISO 12100-1:2003)*

EN ISO 12100-2:2003, *Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles (ISO 12100-2:2003)* ⟨A1⟩

3 Definitions

For the purposes of this standard, the following definitions apply (see figure 1):

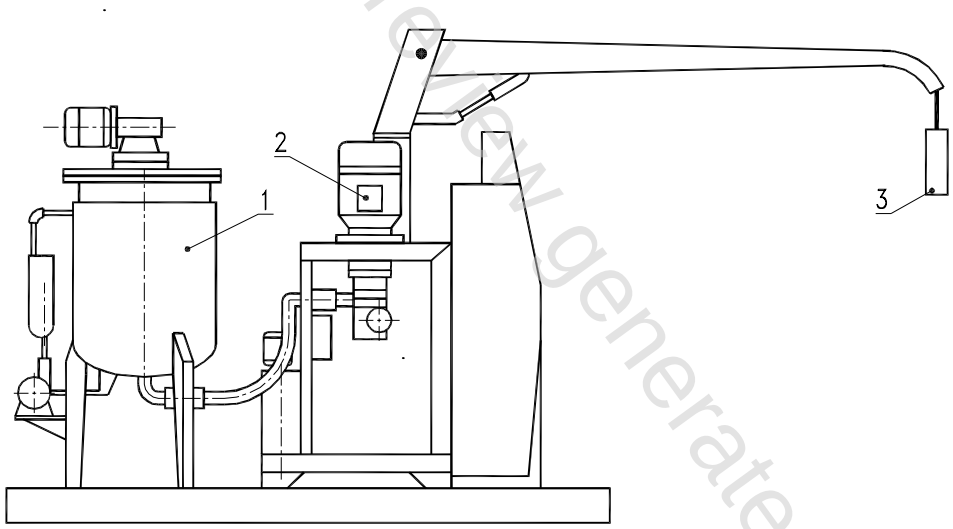
3.1
working tank
a tank which is part of the metering and mixing unit and contains one of the components

3.2
metering unit
a unit for metering the components

3.3
mixing head
the part of the metering and mixing unit for mixing and delivery which can be manually operated or powered (if powered, see ⟨A1⟩ EN 1612-2 ⟨A1⟩)

3.4
highly flammable additive
an additive with a flash point ≤ 21°C

NOTE For the moment there is no European Directive or Standard in existence



Key

1 working tank

2 metering unit

3 mixing head

Figure 1 — Example of a metering and mixing unit