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NSAI Standards

Irish Standard
I.S. EN 12013:2018

Plastics and rubber machines - Internal mixers - Safety requirements

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National Foreword

I.S. EN 12013:2018 is the adopted Irish version of the European Document EN 12013:2018, Plastics and rubber machines - Internal mixers - Safety requirements

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 12013

January 2018

ICS 83.200

Supersedes EN 12013:2000+A1:2008

English Version

Plastics and rubber machines - Internal mixers - Safety requirements

Machines pour les matières plastiques et le caoutchouc - Mélangeurs internes - Prescritions de sécurité

Kunststoff- und Gummimaschinen - Innenmischer - Sicherheitsanforderungen

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European foreword

This document (EN 12013:2018) 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of an identical text or by endorsement, at the latest by July 2018 and conflicting national standards shall be withdrawn at the latest by July 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 12013:2000+A1:2008.

This document 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).

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

The main changes with respect to the previous edition are as follows:

— modification of the structure;

— list of significant hazards is moved into an informative annex;

— clarification that internal mixers for production and for laboratory applications are dealt with;

— tandem mixers (combination of two internal mixers) are added;

— technical developments in safeguards are taken into account;

— revised type-A and type-B standards are taken into account;

— the performance levels of safety related parts of control systems are specified in accordance with EN ISO 13849-1:2015;

— normative annex on noise measurement and declaration for laboratory internal mixers is added.

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, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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Introduction

This document is a type-C standard as stated in EN ISO 12100:2010.

This document is of relevance, in particular, for the following stakeholder groups representing the market players with regard to machinery safety:

— machine manufacturers (small, medium and large enterprises);

— health and safety bodies (regulators, accident prevention organizations, market surveillance etc.)

Others can be affected by the level of machinery safety achieved with the means of the document by the above-mentioned stakeholder groups:

— machine users/employers (small, medium and large enterprises);

— machine users/employees (e.g. trade unions, organizations for people with special needs);

— service providers, e.g. for maintenance (small, medium and large enterprises);

— consumers (in case of machinery intended for use by consumers).

The above-mentioned stakeholder groups have been given the possibility to participate at the drafting process of this document.

The machinery concerned and the extent to which hazards, hazardous situations or hazardous events are covered are indicated in the Scope of this document.

When requirements of this type-C standard are different from those which are stated in type-A or type-B standards, the requirements of this type-C standard take precedence over the requirements of the other standards for machines that have been designed and built according to the requirements of this type-C standard.

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1 Scope

This European Standard deals with all significant hazards, hazardous situations or hazardous events relevant to the design and construction of internal mixers during all phases of the machine life cycle (see EN ISO 12100:2010, 5.4), irrespective of their size and of the control modes of the feeding door and discharge door, for production and laboratory applications, when the machines are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Annex A).

An internal mixer for production and a tandem mixer with manual feeding begins at the feeding door and ends at the lower edge of the material discharge opening.

An internal mixer for production and a tandem mixer with automatic feeding begins at the conveyor, which is an integral part of the machine, and ends at the lower edge of the material discharge opening.

A laboratory internal mixer begins at the feeding door and ends at the material container, which is an integral part of the mixer.

With regard to noise emission measurement and declaration, only laboratory mixers are covered.

Explosion hazards are not dealt with in this document.

NOTE Internal mixers usually do not produce explosive atmospheres. Where materials are processed, which may cause an explosive atmosphere, the Directive 2014/34/EU on the Equipment and protective systems intended for use in potentially explosive atmospheres (ATEX) can be applied.

Exhaust systems are not covered.

This European Standard is not applicable to internal mixers manufactured before the date of its publication.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 574:1996+A1:2008, *Safety of machinery - Two-hand control devices - Functional aspects - Principles for design*

EN 614-1:2006+A1:2009, *Safety of machinery - Ergonomic design principles - Part 1: Terminology and general principles*

EN 619:2002+A1:2010, *Continuous handling equipment and systems - Safety and EMC requirements for equipment for mechanical handling of unit loads*

EN 1037:1995+A1:2008, *Safety of machinery - Prevention of unexpected start-up*

EN 60204-1:2006, *Safety of machinery - Electrical equipment of machines - Part 1: General requirements (IEC 60204-1:2005, modified)*

EN 60529:1991, *Degrees of protection provided by enclosures (IP Code) (IEC 60529:1989/A1:1999/A2:2013)*[1)]

1) This document is impacted by the amendments EN 60529:1991/A1:2000 and EN 60529:1991/A2:2013.

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