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de l'accréditation, de la sécurité et qualité
des produits et services

ILNAS-EN 1034-4:2021

Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 4: Pulpers

Sécurité des machines - Exigences de
sécurité pour la conception et la
construction de machines de fabrication
et de finition du papier - Partie 4 :

Sicherheit von Maschinen -
Sicherheitstechnische Anforderungen an
Konstruktion und Bau von Maschinen der
Papierherstellung und Ausrüstung - Teil



National Foreword

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English Version

**Safety of machinery - Safety requirements for the design
and construction of paper making and finishing machines -
Part 4: Pulpers and their loading facilities**

Sécurité des machines - Exigences de sécurité pour la
conception et la construction de machines de
fabrication et de finition du papier - Partie 4 :
Triturateurs et leurs systèmes d'alimentation

Sicherheit von Maschinen - Sicherheitstechnische
Anforderungen an Konstruktion und Bau von
Maschinen der Papierherstellung und Ausrüstung - Teil
4: Stofflöser und deren Beschickungseinrichtungen

This European Standard was approved by CEN on 10 October 2021.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 1034-4:2021) has been prepared by Technical Committee CEN/TC 198 “Printing and paper machinery - Safety”, the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by May 2022, and conflicting national standards shall be withdrawn at the latest by May 2022.

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

This document supersedes EN 1034-4:2005+A1:2009.

In comparison with the previous edition, the following technical modifications have been made:

- a) Throughout the document, clear differentiation between the different types of pulpers. The term under machine pulper/machine integrated pulper has been added (including schematic representation). The term stand-alone pulper has been introduced for differentiation.
- b) In 5.5.1: Addition of a requirement regarding maximum distance between pulper wall and walkway floor; addition of a requirement for means of access and walkways regarding use of corrosion resistant or galvanized materials.
- c) Throughout the document, the requirements for safety-related functions have been added and updated; in 5.11.3, the inclusion of a table with an overview of the safety functions.
- d) A new subclause 5.9 with requirements for the emptying of stand-alone pulpers and under machine pulpers has been added.
- e) In 5.19 review of requirements on maintenance, inspection and cleaning requirements: as an alternative to manholes (previously only required), provision for mounting systems for safe entry and rescue systems (addition of an example of an entry/rescue system in Annex A), provision of a separate system for transporting tools when entering the pulper, addition of measures to prevent the occurrence of hazardous gases, such as appropriate openings, forced ventilation or ventilation through trash discharge gates.
- f) In Clause 7, information on maintenance, inspection and cleaning has been added.
- g) Review of Annex ZA.

This document has been prepared under a Standardization Request 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.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland,

Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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 the case of machinery intended for use by consumers).

The above-mentioned stakeholder groups have been given the possibility to participate in 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 that 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.

1 Scope

This document specifies safety requirements.

This document is applicable to pulpers and their loading facilities intended for use in paper making as well as for pulpers used in pulp drying machines and is intended to be used together with EN 1034-1:2021.

This document deals with all significant hazards, hazardous situations or hazardous events relevant to pulpers and their loading facilities, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer.

This document does not apply to pulpers and their loading facilities that have been manufactured before the date of publication of this document.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitute requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 547-1:1996+A1:2008, *Safety of machinery - Human body measurements - Part 1: Principles for determining the dimensions required for openings for whole body access into machinery*

EN 547-2:1996+A1:2008, *Safety of machinery - Human body measurements - Part 2: Principles for determining the dimensions required for access openings*

EN 547-3:1996+A1:2008, *Safety of machinery - Human body measurements - Part 3: Anthropometric data*

EN 617:2001+A1:2010, *Continuous handling equipment and systems - Safety and EMC requirements for the equipment for the storage of bulk materials in silos, bunkers, bins and hoppers*

EN 618:2002+A1:2010, *Continuous handling equipment and systems - Safety and EMC requirements for equipment for mechanical handling of bulk materials except fixed belt conveyors*

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

EN 620:2002+A1:2010, *Continuous handling equipment and systems - Safety and EMC requirements for fixed belt conveyors for bulk materials*

EN 741:2000+A1:2010, *Continuous handling equipment and systems - Safety requirements for systems and their components for pneumatic handling of bulk materials*

EN 1034-1:2021, *Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 1: Common requirements*

EN 1496:2017, *Personal fall protection equipment - Rescue lifting devices*

EN 13023:2003+A1:2010, *Noise measurement methods for printing, paper converting, paper making machines and auxiliary equipment - Accuracy grades 2 and 3*

EN 60204-1:2018, *Safety of machinery - Electrical equipment of machines - Part 1: General requirements (IEC 60204-1:2016)*