

MINERAALIDE JA SARNASTE TAHKETE MATERJALIDE
MEHAANILISE TÖÖTLEMISE MASINAD. OHUTUS. OSA 3:
PURUSTAMIS- JA JAHVATUSMASINATE ERINÕUDED

Machines for mechanical processing of minerals and
similar solid materials - Safety - Part 3: Specific
requirements for crushing and milling machinery

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 1009-3:2020 sisaldab Euroopa standardi EN 1009-3:2020 ingliskeelset teksti.	This Estonian standard EVS-EN 1009-3:2020 consists of the English text of the European standard EN 1009-3:2020.
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English Version

**Machines for mechanical processing of minerals and
similar solid materials - Safety - Part 3: Specific
requirements for crushing and milling machinery**

Machines pour le traitement mécanique des minéraux
et des matières solides similaires - Sécurité - Partie 3 :
Prescriptions spécifiques pour les machines de
concassage et de broyage

Maschinen für die mechanische Aufbereitung von
Mineralien und ähnlichen festen Stoffen - Sicherheit -
Teil 3: Spezifische Anforderungen für Brecher und
Mühlen

This European Standard was approved by CEN on 13 April 2020.

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European foreword

This document (EN 1009-3:2020) has been prepared by Technical Committee CEN/TC 151 “Construction equipment and building material machines — 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of an identical text or by endorsement, at the latest by November 2020, and conflicting national standards shall be withdrawn at the latest by May 2022.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 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.

This part of EN 1009 is intended to be used in conjunction with EN 1009-1:2020.

EN 1009 “Machines for mechanical processing of minerals and similar solid materials — Safety” comprises the following parts:

- *Part 1: Common requirements for machinery and processing plants*
- *Part 2: Specific requirements for feeding machinery and continuous handling equipment*
- *Part 3: Specific requirements for crushing and milling machinery*
- *Part 4: Specific requirements for screening machinery*
- *Part 5: Specific requirements for cleaning, recycling and mud treatment machinery*
- *Part 6: Specific requirements for mobile machinery (in preparation)*

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Introduction

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

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 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, to be used together with EN 1009-1:2020, specifies the safety requirements and their verification for the design and construction of crushing and milling machinery for the mechanical processing in quarrying, recycling and processing mineral and by-products. In addition, it specifies the type of information on safe working practices (including residual risks) to be provided by the manufacturer.

When requirements of this part of EN 1009 are different from those which are stated in EN 1009-1:2020, the requirements of this part of EN 1009 take precedence over the requirements of EN 1009-1:2020 for machines that have been designed and built according to the provisions of this part of EN 1009.

This document, together with EN 1009-1:2020, deals with all the significant hazards, hazardous situations and events relevant to crushing and milling machinery when they are used as intended and under the conditions foreseen by the manufacturer (see Annex C).

This document does not cover:

- design relating to road traffic regulations;
- hazards arising from the use of the machines in potentially explosive atmospheres as well as from processing of explosive materials and risks related to electromagnetic compatibility;
- specific hazards related to mobile machinery.

NOTE 1 EN ISO 13766-1 and EN ISO 13766-2 specify test methods and acceptance criteria for evaluating the electromagnetic compatibility of all kinds of mobile construction machinery.

NOTE 2 prEN 1009-6 “Specific requirements for mobile and semi mobile equipment” is under preparation to cover specific requirements (e.g. mobility, braking, access, frequent transportation), including exceptions and additional requirements for mobile and semi mobile equipment. This means that mobile machines are not covered as long as EN 1009-6 is not published by CEN.

This document is not applicable to crushing and milling machinery which are manufactured before the date of publication of this document by CEN.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes 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 795:2012, *Personal fall protection equipment — Anchor devices*

EN 1009-1:2020, *Machines for mechanical processing of minerals and similar solid materials — Safety — Part 1: Common requirements for machinery and processing plants*

EN ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction (ISO 12100:2010)*

EN ISO 14122-2:2016, *Safety of machinery — Permanent means of access to machinery — Part 2: Working platforms and walkways (ISO 14122-2:2016)*

EN ISO 14122-3:2016, *Safety of machinery — Permanent means of access to machinery — Part 3: Stairs, stepladders and guard-rails (ISO 14122-3:2016)*

ISO 2631-1:1997, *Mechanical vibration and shock — Evaluation of human exposure to whole-body vibration — Part 1: General requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12100:2010, EN 1009-1:2020 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp/ui>
- IEC Electropedia: available at <http://www.electropedia.org/>

NOTE Annex A shows examples of crushing and milling machinery.

3.1 crusher

machine intended for reducing the size of mineral-based material to particles of smaller dimension starting from coarse size to millimetric size and which can be based on various crushing technology

3.2 mill

machine intended for reducing the size of minerals based material to particles of smaller dimensions starting from middle coarse size to micronic size, and which can be based on various grinding technologies

3.3 jaw crusher

compression crushing machine consisting of a fixed jaw and a movable jaw which moves so as to increase and decrease the gap between the two jaws

[SOURCE: ISO 11375:1998, 3.2.1]

3.4 gyratory crusher cone crusher

compression crushing machine consisting of a moving part rotated eccentrically within the fixed part; both moving and fixed parts are in a form of truncated cones

[SOURCE: ISO 11375:1998, 3.2.2]

3.5 roll crusher

crushing machine which breaks

- a) by pressure being continuously maintained between the faces of two revolving cylinders (rolls);
- b) by impact, shear and pressure between one roll which has, at intervals rows of teeth and another roll or breaker plate

[SOURCE: ISO 11375:1998, 3.2.3]