



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

ILNAS-EN 15061:2022

Safety of machinery - Safety requirements for strip processing line machinery and equipment

Sicherheit von Maschinen -
Sicherheitsanforderungen an
Bandbehandlungsanlagen und
Einrichtungen

Sécurité des machines - Prescription de
sécurité pour machines et installations
de traitement des bandes

03/2022



National Foreword

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**Safety of machinery - Safety requirements for strip
processing line machinery and equipment**

Sécurité des machines - Prescription de sécurité pour
machines et installations de traitement des bandes

Sicherheit von Maschinen - Sicherheitsanforderungen
an Bandbehandlungsanlagen und Einrichtungen

This European Standard was approved by CEN on 12 December 2021.

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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-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents

Page

1	Scope	5
2	Normative references	6
3	Terms and definitions	9
4	List of significant hazards	14
4.1	General	14
4.2	Interfaces to the linked/integrated equipment.....	15
5	Safety requirements and/or protective/risk-reducing measures	15
5.1	General	15
5.2	Requirements for design, planning and risk assessment.....	16
5.3	List of significant hazards, hazardous situations, safety requirements and/or protective/risk reduction measures for terminal equipment	34
5.4	List of significant hazards, hazardous situations, safety requirements and/or protective/risk reduction measures for processing equipment	55
6	Verification/validation of the safety requirements/functions and/or protective/risk reduction measures	81
6.1	General.....	81
6.2	Required verification D.....	82
6.3	Required verification V, M and T.....	82
7	Information for use	83
7.1	General.....	83
7.2	Safety signs and warning devices	83
7.3	Minimum marking	83
7.4	Accompanying documents.....	84
7.5	Training of personnel.....	87
7.6	Remote access	87
8	Supplementary information regarding repair work.....	87
Annex A (normative)	Requirements for shut-down, emergency stop and other stop functions.....	89
Annex B (normative)	Noise test code.....	94
Annex C (normative)	Protection of persons in case of using asphyxiant gases used in firefighting systems.....	98
Annex D (informative)	Exemplary solutions.....	102
Annex E (informative)	Example for the risk analysis due to interfaces	106
Annex F (informative)	Example for modes of operation in relation to segregated areas.....	107

European foreword

This document (EN 15061:2022) has been prepared by Technical Committee CEN/TC 322 “Equipment for making and shaping of metals - Safety requirements”, 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 September 2022, and conflicting national standards shall be withdrawn at the latest by September 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 15061:2007+A1:2008.

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 not applicable to strip processing lines manufactured before the date of its publication.

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

Where for clarity an example of a preventative measure is given, this should not be considered as the only possible solution. Any other solution leading to the same risk reduction is permissible if an equivalent level of safety is achieved.

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.

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

- machine and/or plant 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 and/or plant operators/ employers (small, medium and large enterprises);
- service providers, e.g. for maintenance (small, medium and large enterprises).

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

1 Scope

This document defines the general safety requirements of strip processing lines.

This document applies to:

Strip processing lines for treating metal strip, from

- coil take-over-point of the entry section (terminal equipment, see 3.2) through the
- process (processing and terminal equipment, see 3.3 and 3.2) up to the
- coil take-over-point of the exit section or interface to other lines (terminal equipment), see Figure 1.

Terminal equipment for:	Processing and terminal equipment for:
Entry section	Chemical and/or electro-chemical treatment lines (e.g., pickling, cleaning) Hot dipping lines Electro plating lines Coating lines (e.g., roll coating) Annealing lines
Exit section	

Figure 1 — Terminal and processing equipment

NOTE 1 The aforementioned processes can also occur in combination.

If the aforementioned processes will be combined with processes which are not covered by the scope of this document, this document can be used as a guideline.

NOTE 2 Thermo process equipment integrated in strip processing lines is covered by the EN 746 series. For dryers and ovens, in which flammable substances are released, EN 1539 applies.

This document does not cover:

- thermo process equipment, e.g. in accordance with the EN 746 series;
- dryers and ovens in accordance with EN 1539;
- coil transporting system before coil take-over-point at the entry section and after coil take-over-point at the exit section, e.g. hook conveyors, overhead cranes, fork lift and railway trucks and other vehicles;
- acid regeneration plants;
- regeneration plants which are not integral part of the strip processing line;
- storage equipment for coils;
- rolling mill stands (i.e. skin pass and reduction stands) according to EN 15094;

- rollshop equipment;
- separate process technology (e.g. compressed air system, treatment of water and treatment of rolling lubricant);
- separate cleaning system for exhaust air;
- firefighting systems.

NOTE 3 Protection of persons in case of using asphyxiant gases used in firefighting system is covered by this document, see Annex C.

This document deals with foreseeable significant hazards, hazardous situations and events relevant to strip processing lines, when used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer. It provides the requirements to be met by the manufacturer to ensure the safety of persons and property during transport, commissioning, use, de-commissioning and maintenance periods, as well as in the event of foreseeable failures or malfunctions that can occur in the equipment.

For modernization, this document (type-C standard) can be applied for the part to be modernized.

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 415-8, *Safety of packaging machines - Part 8: Strapping machines*

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

EN 614-2, *Safety of machinery - Ergonomic design principles - Part 2: Interactions between the design of machinery and work tasks*

EN 689, *Workplace exposure - Measurement of exposure by inhalation to chemical agents - Strategy for testing compliance with occupational exposure limit values*

EN 746 (all parts), *Industrial thermoprocessing equipment*

EN 842, *Safety of machinery - Visual danger signals - General requirements, design and testing*

EN 981, *Safety of machinery - System of auditory and visual danger and information signals*

EN 1299, *Mechanical vibration and shock - Vibration isolation of machines - Information for the application of source isolation*

EN 12198 (all parts), *Safety of machinery - Assessment and reduction of risks arising from radiation emitted by machinery*

EN 12254, *Screens for laser working places - Safety requirements and testing*

EN 12464-1, *Light and lighting - Lighting of work places - Part 1: Indoor work places*

EN 13480 (all parts), *Metallic industrial piping*

EN 14253, *Mechanical vibration - Measurement and calculation of occupational exposure to whole-body vibration with reference to health – Practical guidance*

EN 15154-2, *Emergency safety showers - Part 2: Plumbed-in eye wash units*

EN 15154-5, *Emergency safety showers - Part 5: Water overhead body showers for sites other than laboratories*

EN 15154-6, *Emergency safety showers - Part 6: Plumbed-in multiple nozzle body showers for sites other than laboratories*

CLC/TR 60079-32-1:2018, *Explosive atmospheres - Part 32-1: Electrostatic hazards, guidance*

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

EN 60825-1, *Safety of laser products - Part 1: Equipment classification and requirements (IEC 60825-1)*

EN 60825-4, *Safety of laser products - Part 4: Laser guards (IEC 60825-4)*

EN 61310-1, *Safety of machinery - Indication, marking and actuation - Part 1: Requirements for visual, acoustic and tactile signals (IEC 61310-1)*

EN 61496-1, *Safety of machinery - Electro-sensitive protective equipment - Part 1: General requirements and tests (IEC 61496-1)*

EN 61800-5-2:2017, *Adjustable speed electrical power drive systems - Part 5-2: Safety requirements – Functional (IEC 61800-5-2:2016)*

EN 62061, *Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems (IEC 62061)*

EN 62598, *Nuclear instrumentation - Constructional requirements and classification of radiometric gauges (IEC 62598)*

EN ISO 4413, *Hydraulic fluid power - General rules and safety requirements for systems and their components (ISO 4413)*

EN ISO 4414, *Pneumatic fluid power - General rules and safety requirements for systems and their components (ISO 4414)*

EN ISO 4871:2009, *Acoustics - Declaration and verification of noise emission values of machinery and equipment (ISO 4871:1996)*

EN ISO 7010, *Graphical symbols - Safety colours and safety signs - Registered safety signs (ISO 7010)*

EN ISO 7731, *Ergonomics - Danger signals for public and work areas - Auditory danger signals (ISO 7731)*

EN ISO 10218-1, *Robots and robotic devices - Safety requirements for industrial robots - Part 1: Robots (ISO 10218-1)*

EN ISO 10218-2, *Robots and robotic devices - Safety requirements for industrial robots - Part 2: Robot systems and integration (ISO 10218-2)*

EN ISO 11064-1, *Ergonomic design of control centres - Part 1: Principles for the design of control centres (ISO 11064-1)*