SLOVENSKI STANDARD
oSIST prEN 18181:2026

01-junij-2026

Kmetijski in gozdarski stroji - Kombinirani stroji za obdelavo lesa - Varnost

Agricultural and forestry machinery - Combined firewood processors - Safety

Land- und Forstmaschinen - Sägespaltautomaten - Sicherheit

Machines agricoles et forestières - Machines combinées de traitement du bois de chauffage - Sécurité

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ICS:

65.060.80	Gozdarska oprema	Forestry equipment
79.120.10	Lesnoobdelovalni stroji	Woodworking machines

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Agricultural and forestry machinery - Combined firewood processors - Safety

Machines agricoles et forestières - Machines combinées de traitement du bois de chauffage - Sécurité

Land- und Forstmaschinen - Sägespaltautomaten - Sicherheit

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 144.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (prEN 18181:2026) has been prepared by Technical Committee CEN/TC 144 “Tractors and machinery for agriculture and forestry”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

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

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:

— designers, manufacturers and their authorized representatives of firewood processors;

— 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.

1 Scope

This document specifies safety requirements and their verification for the design and construction of firewood processors, designed to be used for making firewood. Firewood processors are combined machinery that cut and then split the wood. This document covers machines where the cutting is done either by a chain blade or a circular saw, and splitting movement is done horizontally or near horizontally by one or more splitting wedges. If cutting or splitting is done by other means, e.g. by guillotine blade or vertical movement splitting, this document is not applicable. This document is not applicable for machinery, where the wood is required to be moved from cutting to the splitting by manual handling by the operator.

This document deals with firewood processors that are designed in a way that only one operator carries out the work process, but it is foreseeable that other operators, e.g. for loading or unloading, will work on or close to the machine.

This document deals with all significant hazards, hazardous situations and hazardous events relevant to these machines, when they are used as intended and under the conditions foreseen by the manufacturer.

See Annex A for the list of significant hazards.

This document is applicable for manually operated, semi-automatic and automatic firewood processors.

This document is applicable to the following possible integral features of the firewood processor:

— Integral outfeed conveyors;

— Integral infeed conveyors;

— Integral hold to run operated log lifting device.

Other accessories or added features of firewood processors are not covered by this document. These could be e.g.:

— Separate conveyors or tables that are not integral parts of the machine;

— Other wood lifting equipment (e.g. winch or crane);

— Other separate accessories of the machine, e.g. for cleaning the wood or packing the wood.

This document is not applicable to firewood processors which were manufactured before the date of its publication.

2 Normative references

The following referenced documents are indispensable for the application 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 847-1:2017, *Tools for woodworking - Safety requirements - Part 1: Milling tools, circular saw blades*

EN 894-1:1997+A1:2008, *Safety of machinery - Ergonomics requirements for the design of displays and control actuators - Part 1: General principles for human interactions with displays and control actuators*

EN 894-2:1997+A1:2008, *Safety of machinery - Ergonomics requirements for the design of displays and control actuators - Part 2: Displays*

EN 894-3:2000+A1:2008, *Safety of machinery - Ergonomics requirements for the design of displays and control actuators - Part 3: Control actuators*

EN 894-4:2010, *Safety of machinery - Ergonomics requirements for the design of displays and control actuators - Part 4: Location and arrangement of displays and control actuators*

EN 15811:2014, *Agricultural machinery - Fixed guards and interlocked guards with or without guard locking for moving transmission parts (ISO/TS 28923:2012 modified)*

EN 17067:2018, *Forestry machinery - Safety requirements on radio remote controls*

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

EN 60529:1991,[1] *Degrees of protection provided by enclosures (IP Code)*

EN 61310-1:2008, *Safety of machinery - Indication, marking and actuation - Part 1: Requirements for visual, acoustic and tactile signals*

EN 61310-2:2008, *Safety of machinery - Indication, marking and actuation - Part 2: Requirements for marking*

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)*

EN ISO 3411:2007, *Earth-moving machinery - Physical dimensions of operators and minimum operator space envelope (ISO 3411:2007)*

EN ISO 3743-2:2019, *Acoustics - Determination of sound power levels of noise sources using sound pressure - Engineering methods for small, movable sources in reverberant fields - Part 2: Methods for special reverberation test rooms (ISO 3743-2:2018)*

EN ISO 3744:2010, *Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure - Engineering methods for an essentially free field over a reflecting plane (ISO 3744:2010)*

EN ISO 4254-1:2015,[2] *Agricultural machinery - Safety - Part 1: General requirements (ISO 4254-1:2013)*

EN ISO 4413:2010, *Hydraulic fluid power - General rules and safety requirements for systems and their components (ISO 4413:2010)*

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

EN ISO 11201:2010, *Acoustics - Noise emitted by machinery and equipment - Determination of emission sound pressure levels at a work station and at other specified positions in an essentially free field over a reflecting plane with negligible environmental corrections (ISO 11201:2010)*

EN ISO 11202:2010,[3] *Acoustics - Noise emitted by machinery and equipment - Determination of emission sound pressure levels at a work station and at other specified positions applying approximate environmental corrections (ISO 11202:2010)*

[1] As impacted by EN 60529:1991/A1:2000, EN 60529:1991/A2:2013, EN 60529:1991/corrigendum May 1993, EN 60529:1991/AC:2016-12 and EN 60529:1991/A2:2013/AC:2019-02.
[2] As impacted by EN ISO 4254-1:2015/A1:2021.
[3] As impacted by EN ISO 11202:2010/A1:2021.

EN ISO 11688-1:2009, *Acoustics - Recommended practice for the design of low-noise machinery and equipment - Part 1: Planning (ISO/TR 11688-1:1995)*

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

EN ISO 13849-1:2023, *Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design (ISO 13849-1:2023)*

EN ISO 13850:2015, *Safety of machinery - Emergency stop function - Principles for design (ISO 13850:2015)*

EN ISO 13855:2024, *Safety of machinery - Positioning of safeguards with respect to the approach of the human body (ISO 13855:2024)*

EN ISO 13857:2019, *Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2019)*

EN ISO 14119:2025, *Safety of machinery - Interlocking devices associated with guards - Principles for design and selection (ISO 14119:2024)*

EN ISO 14120:2015, *Safety of machinery - Guards - General requirements for the design and construction of fixed and movable guards (ISO 14120:2015)*

EN ISO 14738:2008, *Safety of machinery - Anthropometric requirements for the design of workstations at machinery (ISO 14738:2002, including Cor 1:2003 and Cor 2:2005)*

ISO 3767-1:2016,[4] *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment — Symbols for operator controls and other displays — Part 1: Common symbols*

ISO 3767-2:2016,[5] *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment — Symbols for operator controls and other displays — Part 2: Symbols for agricultural tractors and machinery*

ISO 7960:1995, *Airborne noise emitted by machine tools — Operating conditions for woodworking machines*

ISO 15818:2017, *Earth-moving machinery — Lifting and tying-down attachment points — Performance requirements*

[4] As impacted by ISO 3767-1:2016/Amd 1:2020.
[5] As impacted by ISO 3767-2:2016/Amd 1:2020.

3 Terms and definitions

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

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

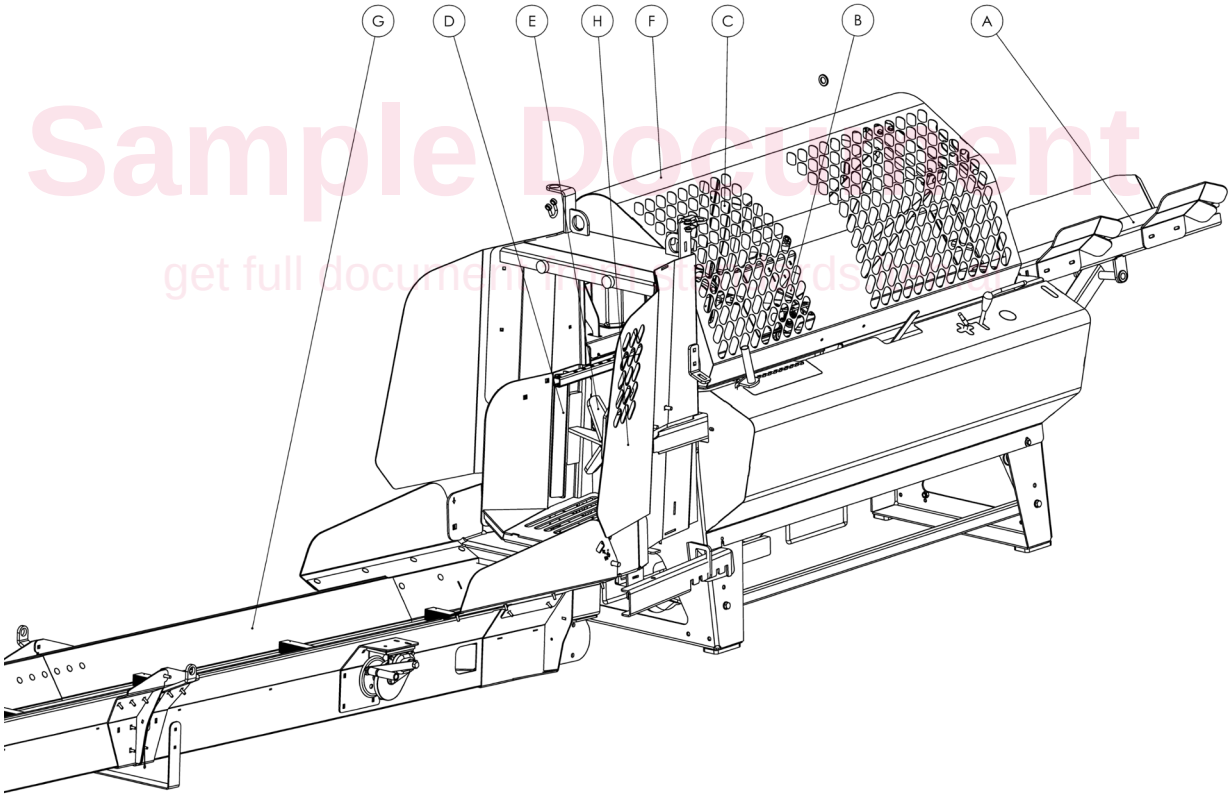
— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

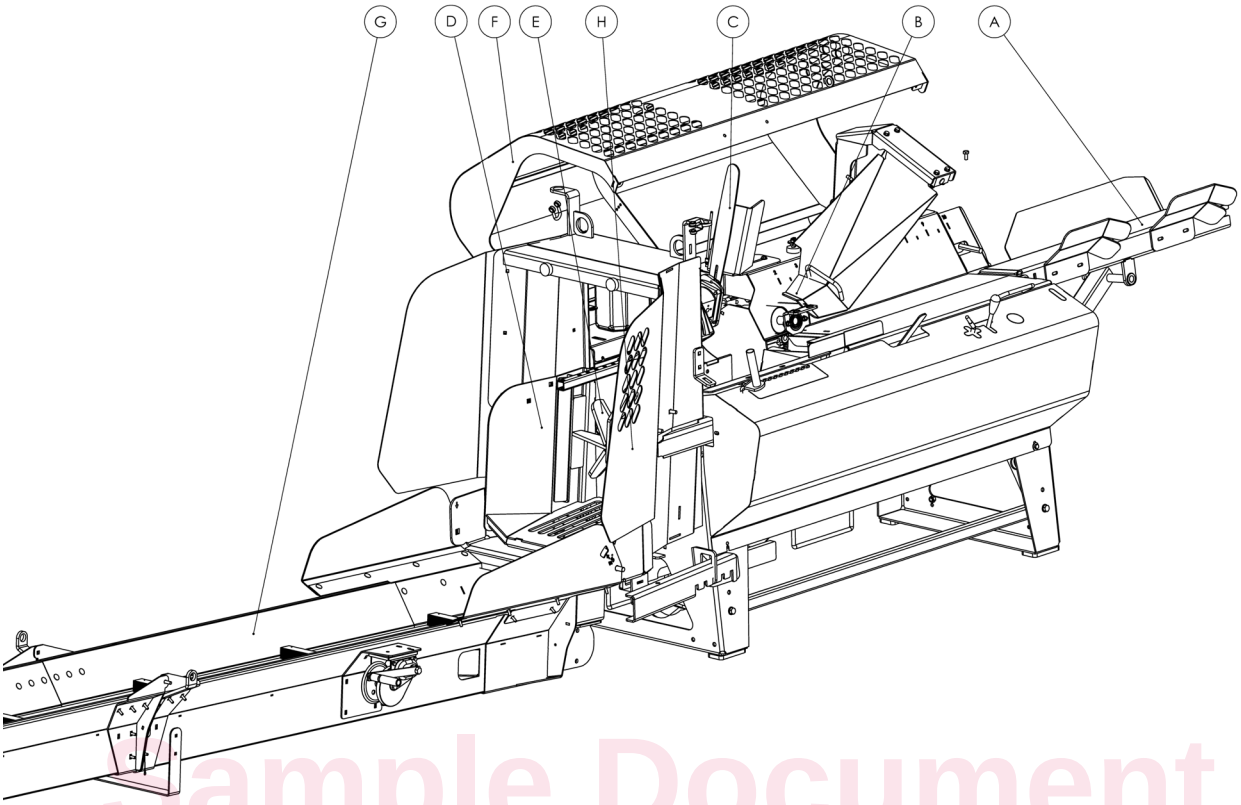
3.1
firewood processor
combination of a circular saw or a chain saw to cut logs and a wedge splitting device to split the log cuts into two or more pieces

Note 1 to entry: Moving the wood from cutting to splitting does not require touching it (i.e. with a hand).

Note 2 to entry: A basic type of a firewood processor is illustrated in Figure 1.



a)



b)

Key

A	Belt conveyor (infeed table)
B	Log holding device
C	Chain saw
D	Splitting bed
E	Splitting wedge
F	Interlocking movable guard
G	Belt conveyor (outfeed)
H	Guard for the outfeed area

Figure 1 — Example of a firewood processor with belt conveyor for feeding, chain saw and belt conveyor for discharge (Interlocking movable guard closed and open)

3.1.1
manually operated firewood processor
firewood processor (3.1) where all movements are initiated and controlled manually by the operator, one at a time

Note 1 to entry: This group of firewood processors can be equipped with the following features:

— a manually **controlled log feed motion – possibly non-mechanical – in the feeding direction;**

— a manually **controlled log holding device – possibly non-mechanical;**

— a manually **controlled saw feed (in the cutting direction) or cutting operation – possibly non-mechanical;**

— a log transfer to the splitting bed by gravity;

— a manually triggered splitting activation;

— a manually **controlled splitting wedge adjustment.**

3.1.2
semiautomatic firewood processor
firewood processor (3.1) where one of its sub-functions is activated by the operator and then performed automatically

Note 1 to entry: This group of firewood processors can be equipped with some or all of the features of manual machines and the following:

— an automatic splitting operation (either by the adjusting of a control device or by a saw-return function or by a cut log);

— an automatic log holding device.

Note 2 to entry: See Figure 1.

Note 3 to entry: The operator is present at all times to intervene in the event of faults of at least one semi-automatic function.

3.1.3
automatic firewood processor
firewood processor (3.1) where the process (each of its sub-functions) is activated by the operator only once and then performed automatically

Note 1 to entry: This group of firewood processors can be equipped with the following features:

— an automatically operated log feed to the feeding direction;

— an automatically operated log holding device;

— an automatically operated saw feed operation;

— a log transfer to the splitting bed by automatically operated devices;

— an automatic splitting operation;

— an automatically operated splitting wedge adjustment.

Note 2 to entry: For use of the firewood processor, the operator is not required to be present all the time. All functions are fully automatic, no pro-active support for a process or human user is required.

3.2
feeding direction
direction in which the material is being fed for cutting

Note 1 to entry: Feeding direction is perpendicular to the *cutting direction* (3.3).

3.3
cutting direction
direction in which the material is being cut

Note 1 to entry: Cutting direction is perpendicular to the *feeding direction* (3.2).

Note 2 to entry: Cutting action can be achieved by moving the blade or the wood in the cutting direction.

3.4
infeed table
integral part of the machine, which supports and feeds the wood during the whole feeding and cutting process

EXAMPLES Belt conveyor, chain conveyor, mechanical roller, feeding cylinder or feeding gripper.

3.5
integral conveyor
element of a firewood processor, which performs functions related to moving the material

Note 1 to entry: An integral conveyor cannot be removed from the machine.

Note 2 to entry: Not related to the maximum log length of the machine.

3.5.1
integral infeed conveyor
integral conveyor (3.5) which feeds the wood directly into the work process via the infeed area without requiring manual support

3.5.2
integral outfeed conveyor
integral conveyor (3.5) which takes the wood pieces from the area after the *processing area* (3.16)

Note 1 to entry: An integral outfeed conveyor can also be used to restrict direct access to the splitting zone of the machine.

3.6
secure mode
operating mode of a *firewood processor* (3.1) where all hazardous movement is prevented and the machine is not dangerous to the user

Note 1 to entry: Secure mode can be activated by an operator. In a typical case, the action to activate the secure mode is by opening a guard to access the processing area.

3.7
line of cutting
line along which the wood is being cut

Note 1 to entry: See Figure 2, key E.

3.8
movable pressure plate
moving part of the machine, which pushes the log against the splitting wedge

3.9
splitting wedge
stationary or moving tool, which causes the log to split into two or more pieces

Note 1 to entry: A stationary splitting wedge can have a height adjustment.

3.10
splitting zone
area, in which the log is being split

3.11
splitting bed
part of a horizontal wedge splitting device on which the log is placed for splitting

3.12
infeed area
area where wood is fed into the processing area

Note 1 to entry: See Figure 2.

3.13
outfeed area
area to where processed wood pieces exit after the processing area

Note 1 to entry: See Figure 2.

3.14
integral hold to run operated log lifting device
optional accessory of a firewood processor designed to lift the wood to the infeed table in order to be fed into the processing area of the machine

3.15
log holding device
device designed to hold the wood still during the cutting operation

3.16
processing area
area where hazardous movements occur in the process of sawing and splitting (D, E, F)

Note 1 to entry: See Figure 2.