Instructions on informative Annex ZA (in CEN) and ZZ (in CENELEC) and multi-parts in harmonized standards under the Machinery Regulation 2023/1230

Introduction

This document was drafted by the CEN and CENELEC Coordination Group on Machinery and developed in close collaboration with the European Commission. Through decisions BT C064/2026 and BT D184/C007, CEN and CENELEC BTs approved these instructions.

The template for the informative Annex ZA (in CEN) / ZZ (in CENELEC) for harmonized standards in support of the Machinery Regulation 2023/1230 (MR) is available on the CEN BOSS (Forms & templates – Annex ZA) and on the CENELEC BOSS (Forms & templates – Annex ZZ).

Instructions

In the first column of the table of Annex ZA/ZZ, all the Essential Health and Safety Requirements (ESHR) of the MR are listed. This is applicable to type A, B and C standards.

Follow the instructions below on how to fill the Annex ZA/ZZ:

1. If the EHSR is relevant and covered by the standard, indicate in column two which clause(s) cover them and leave column three empty (see example below);

Table Z....1 — Correspondence between this European Standard and Annex III of Regulation (EU) 2023/1230

The Essential Requirements of Regulation (EU) 2023/1230	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
1. Essential Health and Safety Requirements		
1.1. General Remarks		
1.1.2. Principles of safety integration	4, 5, 6	
1.1.3. Materials and products	4.3.2, 4.3.4, 4.5.1	

2. If the EHSR is relevant and not covered by the standard, indicate 'not covered' in the third column and leave column two empty (see example below for EHSR 1.1.4);

Table Z....1 — Correspondence between this European Standard and Annex III of Regulation (EU) 2023/1230

The Essential Requirements of Regulation (EU) 2023/1230	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
1. Essential Health and Safety Requirements		
1.1. General Remarks		
1.1.2. Principles of safety integration	4, 5, 6	
1.1.3. Materials and products	4.3.2, 4.3.4, 4.5.1	
1.1.4. Lighting		Not covered

3. If the EHSR is not relevant, or the associated risk is not significant, indicate ‘not relevant’ in the third column and leave column two empty (see example below for EHSR 1.1.4);

Table Z....1 — Correspondence between this European Standard and Annex III of Regulation (EU) 2023/1230

The Essential Requirements of Regulation (EU) 2023/1230	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
1. Essential Health and Safety Requirements		
1.1. General Remarks		
1.1.2. Principles of safety integration	4, 5, 6	
1.1.3. Materials and products	4.3.2, 4.3.4, 4.5.1	
1.1.4. Lighting		Not relevant

4. For ESHR 1.2.1, it is possible to indicate in the note column ‘not covered’ or ‘not relevant’ for a specific sub-item (see example below):

1.2.1. Safety and reliability of control systems - General	4.5.2.	
1.2.1. Safety and reliability of control systems – 2nd paragraph f) “five years of tracing log		Not covered
1.2.1. Safety and reliability of control systems – 3rd paragraph’ Self-evolving behaviour’		Not relevant

5. In the Annex ZA/ZZ, do not indicate references of other standards or other standardization deliverables (Technical Reports, Technical Specifications, Publicly Available Specification, Workshop Agreement) or legal acts (apart from the Machinery Regulation). According to the instructions from the EC:

   Any reference in Annex ZA/ZZ to other standards or documents (which are not the standards) including to other legal acts than the one which should be supported are not acceptable. Annex ZA/ZZ cannot be used to establish relationship between the ‘legal requirements’ and other documents. In consequence, all harmonized standards failing to comply with this, will not be published in the OJEU.

   Examples of incorrect references:

1.1.3 – Materials and products	4.2.2	With exclusion of the reference to the national differences in the foreword of IEC 60204-1:2016

6. Use the wording strictly as indicated in the templates for Annex ZA/ZZ. Do not modify the texts above and below the table. Do not add any text below or above the table.

7. Do not change the order of the columns in the table.

8. Do not indicate in the second column of the table that a given Essential Health and Safety Requirement is addressed by "all clauses". Instead, in the 2nd column of the table always provide the number(s) of clause(s) and annexes addressing a given Essential Health and Safety Requirement.

9. EHSR 1.1.2 should be covered as follows:

The Essential Requirements of Regulation (EU) 2023/1230	Clause(s)/ subclause(s) of this EN
1.1.2	4, 5, 6[1]

10. Do only refer to the parts of the standard which are normative, which deal with significant hazards and which contain verifiable requirements. According to CEN Guide 414, the sentence *"Machinery shall comply with the safety requirements and/or protective/risk reduction measures of this clause. In addition, the machine shall be designed according to the principles of EN ISO 12100:2010 for hazards relevant but not significant which are not dealt with by this document"* appears in each type-C standard under Clause 4 "Safety requirements and/or protective measures" as the first subclause "General". As this sentence does not contain a verifiable requirement, no link to any of the Essential Health and Safety Requirements can be made. Consequently, this subclause shall not appear in an informative Annex ZA/ZZ. As a consequence, the requirements which are linked to specific EHSRs should be made separate from the above-mentioned sentence on not significant hazards and put in a different subclause that will be referred to in an informative Annex ZA/ZZ.

11. According to CEN Guide 414, harmonized standards should contain two different aspects:
    a. safety requirements and/or protective/risk reduction measures (normally Clause 4);
    b. verification of the safety requirements and/or protective/risk reduction measures (normally Clause 5).

    If verification/test method clauses are separated from safety requirements clauses, those requirements clauses should refer to the respective verification/test method clauses and Annex ZA/ZZ should only refer to the requirement's clause.

12. Type-B standards typically address specific EHSRs that can be relevant for most types of machinery. Therefore, when a specific requirement is addressed within the document, the clause numbers in the standard shall be indicated in column two. Otherwise, write "Not covered" in the last column.

[1] If the respective clauses dealing with these aspects have different numbers, then these different numbers should be provided.

13. Where an EHSR contains a number of different requirements:

    i) If none of the relevant requirements are covered then the third column should contain the words not covered.

    ii) If all of the relevant requirements are covered then the clauses in the standard that cover these requirements should be listed in the second column and the third column should be left empty.

NOTE In case i) and case ii) those elements of the EHSR that are not relevant are ignored.

    iii) If relevant requirements are only partially covered then this EHSR shall be considered as not covered; clauses that partially address the EHSR cannot be listed in the second column and the words "not covered" shall appear in the third column.

14. Where relevant, apply the instructions on multi-part standard series. These instructions explain how to ensure that there are sufficient links between the Part 1 (dealing with common requirements) and the specific Parts of the series (dealing with specific requirements). These instructions also include guidance to create an informative Annex ZA/ZZ of such multi-part standard series. These instructions apply to these multi-part standard series which are organized as a series of several parts, where one part (usually Part 1) of the standard provides general specifications that are applicable to a family of machinery and other parts of the standard provide specifications for specific categories of machinery belonging to the family, supplementing or modifying the general specifications of Part 1. The instructions are written below.

Instructions for multi-part standard series including the presentation of a detailed informative Annex ZA/ZZ

These instructions were developed to provide guidance to CEN and CENELEC Technical Bodies who develop multi-part harmonized standards under the Machinery Regulation[2]. Another objective of the document is to ensure a consistent approach in the machinery sector with regard to multi-part series.

Structure of a multi-part standard series (interrelation between Part 1 and Part X)

This document applies to multi-part standards organized as a series of several parts, where one part (usually Part 1) of the standard provides general specifications that are applicable to a family of machinery and other parts of the standard provide specifications for specific categories of machinery belonging to the family, supplementing or modifying the general specifications of Part 1 (see 'Guide to the application of machinery regulation 2023/1230' - under development).

Part 1 provides general/common requirements which are applicable for the whole machine family and shall not contain any specific normative reference to one of the Parts X.

Part X (Part 2, Part 3, … Part N) shall provide specific requirements for a particular category of machinery within this family, by supplementing or modifying the general/common requirements specified in Part 1 through specific normative references.

[2] Full compliance with 'Internal Regulations Part 3 - Principles and rules for the structure and drafting of CEN and CENELEC documents' shall be ensured.

Specific text to be used in Part 1 and Part X

- **Part 1**

  Foreword – After listing all the parts of the series add the following text: "To confer presumption of conformity with the essential requirements of Machinery Regulation 1230/2023, this standard (providing general/common requirements for a whole machine family) has to be applied together with one of those standards in the series (providing specific requirements for a particular category of machinery within this family), once this standard is cited in the Official Journal of the European Union under Machinery Regulation 1230/2023."

  Scope – The following text should be included in the Scope: "This document gives the common safety requirements for [insert type of machine/equipment] families and is intended to be used in conjunction with each of the other parts the series. These machine specific parts do not repeat the requirements from Part 1 but supplement or modify the requirements for the family in question."

  Clause dealing with safety requirements – Include the following sentence "[insert machine type] shall comply with the safety requirements and/or protective/risk reduction measures of this clause, unless modified by requirements of the relevant specific part of the standard series. In addition, the machine shall be designed according to the principles of EN ISO 12100:2010 for hazards relevant but not significant which are not dealt with by this document."

- **Part X**

  Considering that Part X is intended to be applied in conjunction with Part 1 of the series, insert the following text:

  Foreword – "This document is intended to be used in conjunction with Part 1 of the series";

  Clause dealing with Safety requirements – "[Insert machine type] complies with the requirements of [title of the Part 1], as far as not modified or replaced by the requirements of this part."

Therefore, if specified requirements from Part 1 are applicable without any additions/modifications for the specific category of machines covered by Part X, then Part X does not need to systematically refer back to the respective clauses of Part 1 **(Case 1, see example below)**.

If the specifications from Part 1 are not sufficient/not relevant, Part X will additionally indicate one or more of the following:

I. which general/common requirements of Part 1 are being supplemented or modified by the technical measures contained in the present Part X, because the general/common requirements are not sufficient for the specific category of machines **(Case 2, see example below)**;
II. which general/common requirements of Part 1[3] are not relevant because the risk assessment has shown that for the specific category of machines [covered by the scope of the concerned Part X] the corresponding hazard does not exist and/or no technical solution exists according to the generally acknowledged state of the art and/or there is no need to reduce the risk **(Case 3, see example below)**.
III. which additional technical measures (not covered by Part 1) are necessary because the corresponding hazards only exist for the specific category of machines covered in Part X **(Case 4, see example below)**.

[3] Common requirements are those common to two or more categories of machinery within the whole machinery family dealt with, and therefore they may not be applicable to a certain range of machines belonging to the family.

Presentation of a detailed Annex ZA/ZZ in combination with the corresponding clauses of the standard

Annexes ZA/ZZ of Part 1 and Part X have to be applied in the same way together as corresponding clauses/subclauses of the main body of the Part 1 and the Part X. The template of Annex ZA/ZZ of Part 1 is the same used for the Annex ZA/ZZ of Part X.

This means that Part 1 (a general/common requirement standard) alone cannot provide presumption of conformity. Therefore, the following note shall be inserted at the bottom of the table in Annex ZA/ZZ of **Part 1**:

* To cover all the relevant essential requirements for the products(s) in its scope, this standard (providing general/common requirements for a whole machine family) is intended to be applied together with one of those standards as specified in the Foreword (providing specific requirements for a particular category of machinery within this family).

Table Z....1 — Correspondence between this European Standard and Annex III of Regulation (EU) 2023/1230

The Essential Requirements of Regulation (EU) 2023/1230*	Clause(s)/sub-clause(s) of this EN	Remarks/Notes [1]
1. Essential Health and Safety Requirements		
1.1 General Remarks		

The note should appear only once and should not be repeated in all rows.

6.5. Markings		
*To cover all the relevant Essential requirements for the products(s) in its scope, this standard (providing general/common requirements for a whole machine family) is intended to be applied together with one of those standards as specified in the foreword (providing specific requirements for a particular category of machinery within this family).		

Below, the different possible cases (**Cases 1 to 4**) are presented.

Case 1 – The clause in Part 1 sufficiently covers the EHSR and there aren't any changes in Part X

In case a given requirement of Part 1 covers a corresponding requirement for a particular machine category without additions/modifications/restrictions by Part X, the Annex ZA/ZZ of the Part X shall indicate in column 3 "Not covered". Example below.

Annex ZA//ZZ of Part 1

1.1.4 - Lighting	4.3.2.2, 4.3.2.5, 4.18, 4.19	

Annex ZA/ZZ of Part X where there are no changes in the requirements of Part 1

1.1.4. Lighting		Not covered

Case 2 – General/common requirements of Part 1 are being supplemented or modified by the technical measures contained in the Part X, because the general/common requirements are not sufficient for the specific category of machines

Annex ZA/ZA of Part 1

The Essential Requirements of Regulation (EU) 2023/1230	Clause(s)/sub-clause(s) of this EN	Remarks/Notes [1]
1.5.3. Energy supply other than electricity		
1.5.4. Errors of fitting		
1.5.5. Extreme temperatures		
1.5.6. Fire		
1.5.7. Explosion		
1.5.8. Noise		
1.5.9. Vibrations	4.4.1.4	

Annex ZA/ZZ of Part X

The Essential Requirements of Regulation (EU) 2023/1230	Clause(s)/sub-clause(s) of this EN	Remarks/Notes [1]
1.5.3. Energy supply other than electricity		
1.5.4. Errors of fitting		
1.5.5. Extreme temperatures		
1.5.6. Fire		
1.5.7. Explosion		
1.5.8. Noise		
1.5.9. Vibrations	4.2	

Subclause 4.4.1.4 in Part 1

"4.4.1.4 Vibration

The operator's seat shall meet the requirements of EN ISO 7096:2008 with regard to its ability to reduce the vibration transmitted to the operator.

NOTE Comparative data for vibration can be found in ISO/TR 25398:2006"

Subclause 4.2 in Part X

"4.2 Seat

EN Part-1 clause 4.4.1.4 applies with the following modifications:

The seat shall meet the input spectral according to EN ISO 7096:2008:

— EM6 for crawler dozers less than 50 000 kg operating mass according to ISO 6016:2008;

— EM5 for wheel dozers;

— for crawler dozer greater than or equal to 50 000 kg, see EN ISO 7096:2008."

The clauses of the Part 1 should not be indicated in an Annex ZA/ZZ table of the Part X as the text in Part X has been modified.

NOTE : In the case where Part 1 deals with some aspects of an EHSR and Part X addresses ALL the other aspects of this EHSR, this EHSR is fully covered by Parts 1 and X together. Therefore, the ESHR is covered when both Annexes Z are read in combination. In the respective Annexes Z, reference shall be made to the clauses where the EHSR are dealt with in each of the two standard parts.

Case 3 – General/common requirements of Part 1 are not relevant for the equipment in Part X

Annex ZA/ZZ in Part 1

The Essential Requirements of Regulation (EU) 2023/1230	Clause(s)/sub-clause(s) of this EN	Remarks/Notes [1]
3.2.2. Seating		
3.2.3 Positions for other persons		
3.2.4 Supervisory function		
3.3. Control systems		
3.3.1 Control devices		
3.3.2 Starting/moving		
3.3.3. Travelling function		
3.3.4. Movement of pedestrian-controlled machinery		
3.3.5 Control circuit failure		
3.4 Protection against mechanical risks		
3.4.1 Uncontrolled movements		
3.4.2 Moving transmission parts		
3.4.3 Roll-over and tip-over	4.3.3	

Annex ZA/ZZ in Part X

The Essential Requirements of Regulation (EU) 2023/1230	Clause(s)/sub-clause(s) of this EN	Remarks/Notes [1]
3.2.2. Seating		
3.2.3 Positions for other persons		
3.2.4 Supervisory function		
3.3. Control systems		
3.3.1 Control devices		
3.3.2 Starting/moving		
3.3.3. Travelling function		
3.3.4. Movement of pedestrian-controlled machinery		
3.3.5 Control circuit failure		
3.4 Protection against mechanical risks		
3.4.1 Uncontrolled movements		
3.4.2 Moving transmission parts		
3.4.3 Roll-over and tip-over		Not relevant

Subclause 4.3.3 in Part 1

"4.3.3 Roll-overprotective structures (ROPS)

Earth-moving machinery with a seated ride-on operator shall be fitted with a roll-over protective structure (ROPS), complying with EN ISO 3471:2008. EN ISO 3164:2013 applies for deflection limiting volume (DLV)."

Subclause 4.3.3 of Part X

'4.3.3 Roll-over protective structures (ROPS)

EN Part-1, clause 4.3.3 does not apply for cable excavators.'

Case 4 – When additional technical measures (not covered by Part 1) are necessary because the corresponding hazards only exist for the specific category of machines covered in Part X relevant for the majority of the equipment described in the series, it is not covered by any clause in Part 1 but it is relevant to Part X, then it should be indicated in the 3rd column as “Not covered”.

Annex ZA/ZZ of Part 1

1.2.4. Stopping		
1.2.4.1. Normal stop		
1.2.4.2. Operational Stop		
1.2.4.3. Emergency stop		
1.2.4.4. Assembly of machinery or related products		
1.2.5. Selection of control or operating modes		Not covered
1.2.6. Failure of the power		

Annex ZA/ZZ of Part X

1.2.4. Stopping		
1.2.4.1. Normal stop		
1.2.4.2. Operational Stop		
1.2.4.3. Emergency stop		
1.2.4.4. Assembly of machinery or related products		
1.2.5. Selection of control or operating modes	4.5.2	

Subclause 4.5.2 in Part X

"4.5.2 Operating mode

Cable excavators intended for use in different modes shall be fitted with a lockable operating mode selector for at least:

a) excavator operation mode;

NOTE 1 Excavator operation mode can include e.g. excavating, compaction, demolition. b) lifting operation mode.

The activation of the selected operation mode shall be optically indicated at the operator's station(s).

NOTE 2 A remote control is also considered as an operator’s station."

Instructions for global relevant standards including the presentation of a detailed informative Annex ZA/ZZ

These instructions were developed to provide guidance to CEN and CENELEC Technical Bodies who develop global relevant harmonized standards under the Machinery Regulation[4]. Another objective of the document is to ensure a consistent approach in the machinery sector with regard to global relevant standards.

The concept (interrelation between EN ISO standards and the homegrown standards)

The EN ISO XXX and EN YYYY standard may be developed in line with **Global Relevance principles**

- Route C (see the document 'Regional requirements in EN ISO standards - Guidance on the implications of the ISO Global Relevance policy'):

→ The (EN) ISO XXX standard contains core requirements applicable to all regions.
→ Requirements needed to address market differences are published in separate documents: EN homegrown standard for Europe and ISO Technical Specifications (ISO/TSs) which support the other regional markets
→ One EN standard addresses the differences of the European market
→ The EN ISO XXX standard and the corresponding EN YYY standard together meet the Essential Requirements of the Machinery Regulation (and can provide a presumption of conformity).

Both the base standard EN ISO XXX and EN YYY are cited in the OJEU.

Regional requirements are not normatively referenced in the base (EN) ISO XXX standard because they contain different regional requirements.

The approach was discussed and agreed at the Machinery Working group meeting of 1/2 June 2010, among others under agenda item 3.10 (https://ec.europa.eu/docsroom/documents/32101.

The information about the relationships between the documents shall be given in the European Foreword of the EN ISO XXX standards.

The main conclusions of relevance for “presumption of conformity” and thereby for the development of a detailed informative Annex ZA are the following:

i. Both documents (EN) ISO XXX vs. the corresponding EN YYY have to be used together to provide “presumption of conformity”.
ii. Clauses of (EN) ISO XXX which contain an informative reference to EN YYY cannot provide “presumption of conformity”.

Item i. is made clear for the user of both documents by the following measures:

- (EN)ISO XXX shall contain explanations how to use this standard with regard to regional requirements in its introduction and scope (reference to EN YYY).
- EN YYY when specifying requirements always establishes the link to the corresponding clauses of (EN) ISO XXX through normative references.

[4] Full compliance with ‘Internal Regulations Part 3 - Principles and rules for the structure and drafting of CEN and CENELEC documents’ shall be ensured.

With regard to item ii) those clauses which contain an informative reference to EN YYY should consequently not appear in the detailed Annex ZA for EN ISO XXX.

Presentation of a detailed Annex ZA/ZZ in combination with the corresponding clauses of the standard

Annexes ZA/ZZ of EN ISO XXX and EN YYY have to be applied in the same way together as corresponding clauses/subclauses of the main body of EN ISO XXX and EN YYY. The template of Annex ZA/ZZ of EN ISO XXX is the same used for the Annex ZA/ZZ of EN YYY.

This means that EN ISO XXX (a common requirement standard) alone cannot provide presumption of conformity. Therefore, the following note shall be inserted in the first row of the table in Annex ZA/ZZ of EN ISO XXX:

EN ISO XXX

Table Z….1 — Correspondence between this European Standard and Annex III of Regulation (EU) 2023/1230

The Essential Requirements of Regulation (EU) 2023/11230	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
		To cover all the relevant safety requirements for the products(s) in its scope, this standard (providing global requirements and references to regional requirements for a machine) has to be applied together with one of those standards as specified in the scope (providing European regional requirements for a machine).
[Per row: an essential requirement]		

The note should appear only once and should not be repeated in all rows.

The different possible cases provided above for multi-part standards (**Cases 1 to 4**) also apply for global relevant standards.

For clauses that refer to regional requirements applicable only for the rest of the world, a given regional requirement exists only in ISO/TS relative to this region whereas it is not covered by EN YYY. That clause can be referred to in the Annex Z of EN ISO XXX.

For clauses that refer to regional requirements applicable for Europe, a given regional requirement exists in EN YYY. The clause shall not be listed in the Annex Z of EN ISO XXX and can be listed in Annex Z of EN YYY.