

SLOVENSKI STANDARD

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Svinčeno-kislinske zagonske baterije - 4. del: Mere baterij za težka gospodarska vozila

Lead-acid starter batteries - Part 4: Dimensions of batteries for heavy vehicles

Blei-Akkumulatoren-Starterbatterien - Teil 4: Maße von Nutzkraftwagen-Batterien

Batteries d'accumulateurs de démarrage au plomb - Partie 4: Dimensions des batteries pour poids lourds

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Kislinski sekundarni členi in
baterije

Acid secondary cells and
batteries

SIST EN 50342-4:2021

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EUROPEAN STANDARD
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EN 50342-4

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Supersedes EN 50342-4:2009 and all of its amendments
and corrigenda (if any)

English Version

**Lead-acid starter batteries - Part 4: Dimensions of batteries for
heavy vehicles**

Batteries d'accumulateurs de démarrage au plomb - Partie
4: Dimensions des batteries pour poids lourds

Blei-Akkumulatoren-Starterbatterien - Teil 4: Maße von
Nutzkraftwagen-Batterien

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European Committee for Electrotechnical Standardization
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Europäisches Komitee für Elektrotechnische Normung

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

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European foreword

This document (EN 50342-4:2020) has been prepared by CLC/TC 21X “Secondary cells and batteries”.

The following dates are fixed:

- latest date by which this document has (dop) 2021-10-26
to be implemented at national level by
publication of an identical national
standard or by endorsement
- latest date by which the national (dow) 2023-10-26
standards conflicting with this document
have to be withdrawn

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1 Scope

This document is applicable to lead-acid batteries used for heavy vehicles.

The object of this document is to specify the European requirements of the main dimensions of starter batteries.

For new and future developments of the above applications, it is expected that only batteries from the “Preferred Types” series be used.

Batteries of the series of “Other Types” exist under several national standards. They have been transferred from the previous standard EN 60095-4.

The preferred types A, B and C are newly introduced and correspond closely to the types D4, D5 and D6 with some differences in tolerances and dimensions.

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 50342-1, *Lead-acid starter batteries - Part 1: General requirements and methods of test*

EN 50342-2, *Lead-acid starter batteries - Part 2: Dimensions of batteries and marking of terminals*

EN 50342-5, *Lead-acid starter batteries - Part 5: Properties of battery housings and handles*

EN 61429, *Marking of secondary cells and batteries with the international recycling symbol ISO 7000-1135 and indications regarding directives 93/86/EEC and 91/157/EEC (IEC 61429)*

EN ISO 1043-1, *Plastics - Symbols and abbreviated terms - Part 1: Basic polymers and their special characteristics (ISO 1043-1)*

IEC 60050-482, *International Electrotechnical Vocabulary (IEV) — Part 482: Primary and secondary cells and batteries*

IEC 60417, *Graphical symbols for use on equipment*

ISO 11469, *Plastics — Generic identification and marking of plastics products*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-482 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 <https://www.iso.org/obp>

4 General requirements

4.1 Safety labelling

The batteries shall bear the six coloured safety symbols in accordance with EN 50342-1.

4.2 Marking

4.2.1 General

The batteries shall be marked with signs for both polarities that have to be positioned near to or on top face of the terminals.

4.2.2 Marking of positive terminals

This marking shall take the form of the symbol “+” either on the upper surface of the positive terminal or on the lid adjacent to the positive terminal.

4.2.3 Marking of negative terminals

This marking shall take the form of the symbol “-” either on the upper surface of the negative terminal or on the lid adjacent to the negative terminal.

4.2.4 Design and dimensions of marking of terminals

The symbols used for marking the terminals shall be in accordance with IEC 60417, symbol 5005a for the positive polarity and symbol 5006a for the negative polarity.

The dimensions of the marking shall be according Figure 1.

The polarity symbols may be either indented or embossed by $0,4 \text{ mm} \pm 0,1 \text{ mm}$.

Dimensions in millimetres



Figure 1 — Marking of polarity

4.3 Recycling

4.3.1 Recycling of lead

The batteries shall be marked with the symbols for recycling and separate collection regarding European directives in accordance with EN 61429.

4.3.2 Recycling of plastic material

Injection moulded battery components shall be marked according ISO 11469 and EN ISO 1043-1. The marking shall be placed on the bottom of the battery container or on one short side near the ledge.

According ISO 11469 and EN ISO 1043-1 the minimum marking for polypropylene-polyethylene copolymer is > PP < or > PP/PE < .

In addition it is possible to show the recycling symbol with number 7 (Unicode Character 'RECYCLING SYMBOL FOR TYPE-7 PLASTICS' (U+2679) according to ISO/IEC 10646) and the term “Other”.

The recommended thickness is $(0,3 \pm 0,1) \text{ mm}$. The height of the marking characters shall be between 5 mm and 7 mm.

An example for this marking is shown in Figure 2.



OTHER

> PP/PE <

Figure 2 — Marking of polypropylene-polyethylene copolymer battery components

4.4 Dimensions and design

All dimensions in this document are given in millimetres.

All dimensions given in this document correspond to room temperature of the polypropylene-polyethylene copolymer.

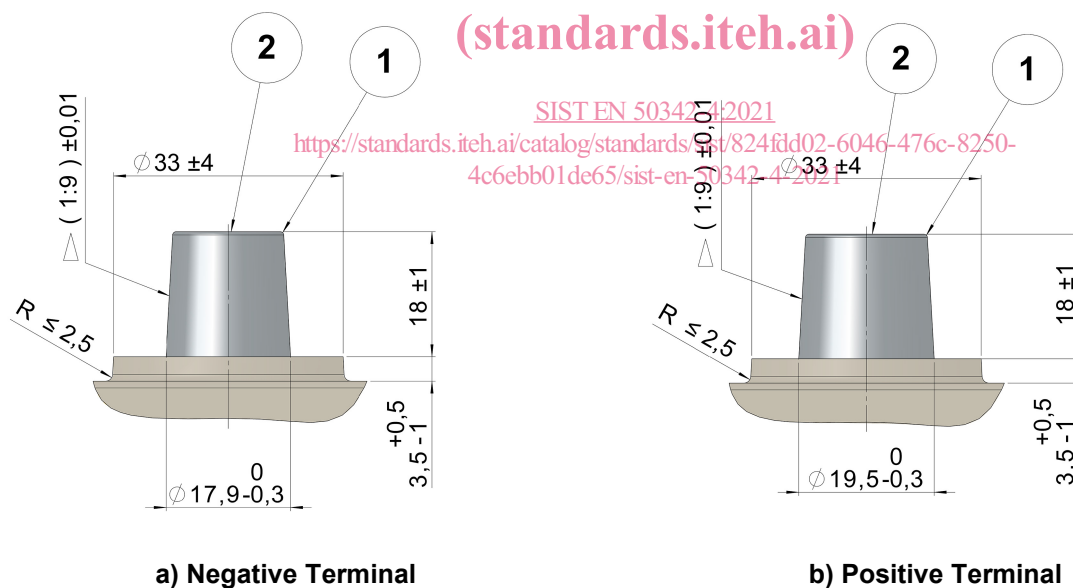
Details of the design that are not indicated in the generic drawings need to be chosen appropriately.

The generic drawings in this document are possible examples only. Especially the design of the lid, handles, ribs, ledges and vent caps are not mandatory in total.

4.5 Dimensions of terminals

The dimensions of the tapered positive and negative terminal shall be according Figure 3.

iTeh STANDARD PREVIEW Dimensions in millimetres
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Key

- 1 Edge with radius
- 2 Convex or concave surface design permitted within height dimensions of $(18 +1 / -2)$ mm related to the centre of the terminal

Figure 3 — Dimensions of positive and negative terminals

If the terminal has a base “ring” as shown above, it should conform to the dimensions given in drawing.

5 Preferred types

5.1 General

For new battery developments, only the preferred types shall be used.

5.2 Main dimensions of types A, B, C and D2

The main dimensions of the preferred battery types are shown in Table 1, Figure 4 and Figure 5

NOTE The schematics drawings do not show every design detail of the battery

Table 1 — Main dimension of preferred battery types A, B, C and D2

Dimensions in millimetres

Type	l	h_1	l_2	l_3	b	b_1	b_2	b_3	h	h_1
A	$513 \begin{smallmatrix} 0 \\ -4 \end{smallmatrix}$	$475 \begin{smallmatrix} 0 \\ -3 \end{smallmatrix}$	$482 \begin{smallmatrix} +2 \\ -2 \end{smallmatrix}$	$200 \begin{smallmatrix} +4 \\ -4 \end{smallmatrix}$	$188 \begin{smallmatrix} +2 \\ -2 \end{smallmatrix}$	$178 \begin{smallmatrix} 0 \\ -2 \end{smallmatrix}$	$86 \begin{smallmatrix} +2 \\ -2 \end{smallmatrix}$	8 min.	223 max.	$195 \begin{smallmatrix} 0 \\ -3 \end{smallmatrix}$
B	$513 \begin{smallmatrix} 0 \\ -4 \end{smallmatrix}$	$475 \begin{smallmatrix} 0 \\ -3 \end{smallmatrix}$	$482 \begin{smallmatrix} +2 \\ -2 \end{smallmatrix}$	$200 \begin{smallmatrix} +4 \\ -4 \end{smallmatrix}$	$222 \begin{smallmatrix} +2 \\ -2 \end{smallmatrix}$	$210 \begin{smallmatrix} 0 \\ -2 \end{smallmatrix}$	$102 \begin{smallmatrix} +2 \\ -2 \end{smallmatrix}$	20 min.	223 max.	$195 \begin{smallmatrix} 0 \\ -3 \end{smallmatrix}$
C	$518 \begin{smallmatrix} 0 \\ -4 \end{smallmatrix}$	$475 \begin{smallmatrix} 0 \\ -3 \end{smallmatrix}$	$482 \begin{smallmatrix} +2 \\ -2 \end{smallmatrix}$	$200 \begin{smallmatrix} +4 \\ -4 \end{smallmatrix}$	$274 \begin{smallmatrix} +2 \\ -2 \end{smallmatrix}$	$265 \begin{smallmatrix} 0 \\ -2 \end{smallmatrix}$	$130 \begin{smallmatrix} +2 \\ -2 \end{smallmatrix}$	47 min.	242 max.	$216 \begin{smallmatrix} 0 \\ -3 \end{smallmatrix}$
D2	$349 \begin{smallmatrix} 0 \\ -5 \end{smallmatrix}$	$344 \begin{smallmatrix} 0 \\ -8 \end{smallmatrix}$	—	—	$175 \begin{smallmatrix} 0 \\ -4 \end{smallmatrix}$	$162 \begin{smallmatrix} +4 \\ -4 \end{smallmatrix}$	—		$235 \begin{smallmatrix} 0 \\ -4 \end{smallmatrix}$	$213 \begin{smallmatrix} 0 \\ -4 \end{smallmatrix}$

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Dimensions in millimetres

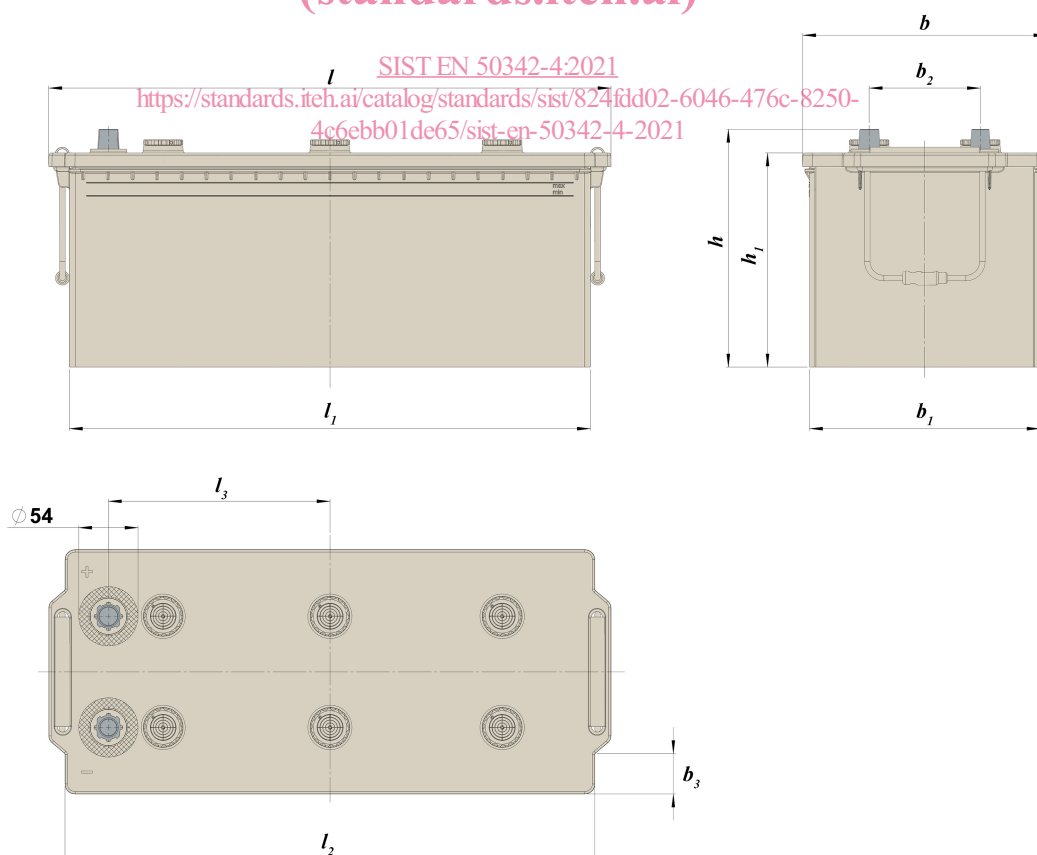


Figure 4 — Main dimensions of types A, B, C