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Railway applications - Gauges - Part 2: Rolling stock gauge

Applications ferroviaires - Gabarits - Partie 2: Gabarit du matériel roulant

Bahnanwendungen - Begrenzungslinien - Teil 2: Fahrzeugbegrenzungslinien

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

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EN 15273-2:2013 (E)**Foreword**

This document (EN 15273-2:2013) has been prepared by Technical Committee CEN/TC 256 "Railway applications", 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of an identical text or by endorsement, at the latest by November 2013, and conflicting national standards shall be withdrawn at the latest by November 2013.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document replaces EN 15273-1:2009.

This document has been prepared under a mandate given to CEN/CENELEC/ETSI by the European Commission and the European Free Trade Association, and supports the essential requirements of EU Directive 2008/57/EC.

For the relationship with Directive 2008/57/EC, see informative Annex ZA, which is an integral part of this document.

This document replaces document EN 15273-2:2009 resulting from review from national standards organizations relating to the symbols, formulae and other incorrect technical content in the 2009 document.

Modifications compared to EN 15273-2:2009:

- [SIST EN 15273-2:2013](https://standards.iteh.ai/catalog/standards/sist/6c870175-0232-4b52-9624-c90177aac8aa/sist-en-15273-2-2013)
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- introduction: change to text;
 - area of application: deletion of the 4th sentence;
 - 2: new normative reference (EN 15663);
 - 3: new introductory subclause;
 - 3.2: new definition;
 - 4: new Table 1 (drawn from EN 15273-1:2013);
 - 5: last sentence, new reference to Annex R;
 - 5.1.1: change to text;
 - 5.1.2: new text;
 - 5.1.3: change to point b);
 - 5.1.4: change to text;
 - 5.1.5: change to points a) and b);
 - 5.1.6: change to the second indent in the last sentence, new reference to Annex R;
 - A.1.2: new text and change to Formula (A.1);

- A.1.3: new text;
- A.2.2.1: new title, change to text and to Figure A.2;
- A.2.2.2: new title, change to text and to Figure A.3;
- A.2.3.1: new text;
- A.2.3.2: new text and changes to Formulae (A.2) and (A.3);
- A.2.4.1: changes to Formulae (A.4),(A.5) and (A.6);
- A.2.4.2: changes to Formulae (A.7), (A.8) and(A.9);
- A.3.1: new text and new note;
- A.3.3.1: new title and change to the text, new Figure A.5;
- A.3.3.2: new title and change to the text, new Figure A.6;
- A.3.4.1: change to text;
- A.3.4.1.1: change to text;
- A.3.4.1.3: change to text;
- A.3.4.1.4: change to text, Figure A.7, Table A.1, and new symbols;
- A.3.4.1.5: new symbols;
- A.3.4.1.5.1: new Figures A.8 and A.9, new notes at the bottom of page 1) and 2), new Formulae (A.10), (A.11), (A.12), (A.13), (A.14), (A.15), (A.16), (A.17), (A.18), (A.19), (A.20), change to text;
- A.3.4.1.5.2: change to text;
- A.3.4.1.6: new Formulae (A.21) and (A.22);
- A.3.4.2.2: change to text;
- A.3.4.2.3: change to text and to Formulae (A.23) and (A.24);
- A.3.5: change to text and to Figures A.11, A.12;
- A.3.6: change to text, to Figure A.13 and to Formulae (A.25) and (A.26);
- A.3.7: change to text, new symbols and Formulae (A.27) and (A.28);
- A.3.8.1: new formula in the text; change to Formula (A.29);
- A.3.8.1.1: change to formulae;
- A.3.8.1.2: new symbols and changes to Formulae (A.30) and (A.31) and to formulae in the main text;
- A.3.9: new text;
- A.3.9.1.1.1: changes to Formulae (A.32), (A.33), (A.34);

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- A.3.9.1.1.2: changes to Formulae (A.35), (A.36), (A.37);
- A.3.9.1.2: change to title and to references (renumbering of following formulae);
- A.3.9.1.2.1: change to Formulae (A.38) and (A.39);
- A.3.9.1.2.2: change to Formulae (A.40) and (A.41) and note at bottom of page 3);
- A.3.9.2: change to Table A.3, new last subclause with references to the affected formulae;
- A.3.9.2.1: changes to Formulae (A.42), (A.43), (A.44);
- A.3.9.2.2: changes to Formulae (A.45), (A.46),(A.47);
- A.3.9.2.3: changes to Formulae (A.48), (A.49), (A.50);
- A.3.9.3.1.1: changes to Formulae (A.51), (A.52), (A.53);
- A.3.9.3.1.2: changes to Formulae (A.54), (A.55), (A.56);
- A.3.9.3.2: change to references;
- A.3.9.3.2. 1&2: change to Formulae (A.57), (A.58), (A.59);
- A.3.10: change to references, to note at the bottom of page 3) and to the symbols in the text, change to Formulae (A.61), (A.62), (A.63), (A.64), (A.65), (A.66), (A.67), (A.68), (A.69), (A.70);
- A.3.11: new references;
- A.3.12: new title;
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- A.3.12.1: new Figure A.14, new last subclause;
- A.3.12.2: new reference;
- A.3.12.3: new title, new text;
- A.3.12.4: deletion of previous text and replacement with new text, new Formulae (A.71, (A.72), (A.73), (A.74), (A.75), (A.76), (A.77), (A.78), (A.79), (A.81);
- A.3.12.5.1&2: new Formulae (A.85), (A.86), (A.87), (A.88), (A.89), (A.90);
- A.3.12.8: new title and new reference in the text;
- A.3.13: new symbols, new text, new (A.91), (A.92), (A.93), (A.94), (A.95), (A.96), (A.97), (A.98), (A.99), (A.100); deletion of old Formulae (A.89) and (A.90), deletion of old Formulae (A.96) and (A.98);
- A.3.13.2.1: new Figure A.15, new Formulae (A.101), (A.102), (A.103), (A.104), new text and new references;
- A.3.13.2.2: new references, new symbol and new Formula (A.105);
- A.3.14: new symbols, new text, new Formulae (A.106) and (A.107);
- A.3.15: new title, new subtitles, new text, new Formulae (A.108), (A.109), (A.110), (A.111);
- A.3.16.1: deletion of the second sentence;

- A.3.16.3: new Figures A.16 a & b and A.17 a & b;
- A.3.16.5: new point b);
- A.3.16.7: new Formula (A.112) and new symbols in the text;
- A.3.16.7.1: new Figure A.18 a & b, new references in the text, new Formulae (A.113) and (A.114);
- A.3.16.7.2: new Figures A.19 a & b, new references in the text, new Formulae (A.115) and (A.116);
- A.3.16.9: corrections to the text, new Formulae (A.117), (A.118), (A.119) and (A.120);
- A.4: new symbol in the text, change to Table A.4;
- B.2.2.2: new Formulae (B.3) and (B.4);
- B.3.2: new introduction;
- B.3.3: new values, new text, new Formulae (B.6), (B.8), (B.9), (B.10), (B.13), (B.14), (B.15);
- B.3.4: new text, new Formulae (B.16), (B.17), (B.18), (B.19), (B.20), (B.21), (B.22), (B.23), (B.24);
- B.3.5: new text, new references, new Formulae (B.25), (B.26), (B.27), (B.28), (B.29), (B.30), (B.31), (B.32), (B.33), (B.34), (B.35);
- B.3.6: new Formulae (B.36), (B.37), (B.38), (B.39), (B.40), (B.41), (B.42), (B.43), (B.44), (B.45), (B.46);
- C.1.2.3: new title, new text, new reference to Annex D;
- Annex D: new title: <https://standards.iteh.ai/catalog/standards/sist/6c870175-0232-4b52-9624-c90177aac8aa/sist-en-15273-2-2013>
- D.1: new title, new Figure D.1;
- D.2: new article (8 pages);
- E.1.2.2: new title, new text, new reference to Annex D;
- F.2.3: new text;
- F.2.6: new text;
- F.2.7: new text;
- F.3.1: new symbols;
- F.3.2.1: deletion of old clause, replacement with a new text, new Formulae (F.1), (F.2), (F.3) and (F.4), new Table F.1;
- F.4: new key for Figure F.1;
- F.5: new symbols, new text, new Formulae (F.5), (F.6) and (F.7);
- F.6: new symbols, new text, new Formulae (F.8), (F.9);
- F.7.2: new reference to RAMO2;
- F.8.1 & 2 & 3: new text, new reference, new symbols, new Formulae (F.10), (F.11) and (F.12);

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- F.8.4: deletion of the clause;
- F.9.1 & 2 & 3: new text, new reference, new symbols, new Formulae (F.13), (F.14) and (F.15);
- F.9.4: deletion of the clause;
- G.1: new text;
- G.3: new title, new text, new reference to Annex D;
- G.4 and its subclauses: full re-write of this clause, new Formulae (G.1), (G.2), (G.3), (G.4), (G.5), (G.6), (G.7), (G.8), (G.9), (G.10), (G.11), (G.12), (G.13), (G.14), (G.15), (G.16), (G.17), (G.18), (G.19), (G.20), (G.21), (G.22), (G.23), (G.24), (G.25), (G.26), (G.27), (G.28), (G.29);
- H.2.3: change to text;
- H.2.4: change to text;
- H.4 and its subclauses: new Formulae (H.1), (H.2), (H.3), (H.4), (H.5), (H.6), (H.7), (H.8), (H.9), (H.10), (H.11), (H.12), (H.13), (H.14), (H.15), (H.16), (H.17), (H.18), (H.19), (H.20), (H.21), (H.22), (H.23), (H.24), (H.25), (H.26), (H.27), (H.28), (H.29), (H.30);
- H.5 and its subclauses: new Formulae (H.31), (H.32), (H.33), (H.34), (H.35), (H.36), (H.37), (H.38), (H.39);
- I.1: new introduction;
- I.4 and its subclauses: new text, new symbols and new Formulae (I.1), (I.2), (I.3), (I.4), (I.5), (I.6), (I.7), (I.8), (I.9), (I.10), (I.11), (I.12), (I.13), (I.14), (I.15), (I.16), (I.17), (I.18), (I.19), (I.20), (I.21);
- I.5 and its subclauses: new Formulae (I.24), (I.25), (I.26), (I.27), (I.28), (I.29), (I.30), (I.31), (I.34), (I.35);
- I.6 and its subclauses: new Formulae: (I.40), (I.41), (I.42), (I.43), (I.44), (I.45), (I.47), (I.50), (I.51);
- J.1: new Table J.1;
- J.3: new Figure J.1;
- J.4: new title;
- J.6: new Figure J.4;
- J.7 and its subclauses: change to text, new Formulae (J.1), (J.2), (J.3), (J.4), (J.5), (J.6), (J.7), (J.8), (J.9), (J.10), (J.11), (J.12), (J.13) and new tables J.3, J.5;
- J.8.10: new text;
- J.8.11: new Formulae (J.14) and (J.15);
- J.8.12: new Formulae (J.16) and (J.17);
- J.8.13: new Formulae (J.18) and (J.19);
- J.8.14: new Formulae (J.20) and (J.21);
- J.8.15: new text;

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- J.10.4: new formulae in the text;
- Annex K: new title, new introduction;
- K.2.2: new Formulae (K.1), (K.2), (K.3), new formulae in the text;
- L.1.2.2: change to formulae in the text;
- L.2.2: change to formulae in the text;
- L.3.2: new symbol with new values;
- L.4.1: change to the last sentence;
- L.4.2.1: change to formulae and data in the text;
- L.4.2.2: change to formulae in the text;
- L.4.3: change to formulae in the text;
- L.4.4: New Table L.2;
- M.2: change to text;
- Annex N: change to the annex to informative status;
- N.2.2: change to Formulae(N.1), (N.2), (N.3), (N.4), (N.5);
- N.2.3: changes to Formulae(N.6), (N.7), (N.8);
- N.3.2.1: change to text; <https://standards.iteh.ai/catalog/standards/sist/6c870175-0232-4b52-9624-c90177aac8aa/sist-en-15273-2-2013>
- N.3.8.2: change to Formulae(N.9), (N.10), (N.11), change to formulae in the text;
- N.3.8.3: change to symbols in the text, change to Formulae (N.12), (N.13), (N.14), (N.15), (N.16), (N.17), (N.18), (N.19), (N.20), (N.21), (N.22), (N.23), (N.24), (N.25), (N.26), (N.27), (N.28), (N.29), (N.30), (N.31), (N.32), (N.33), (N.34), (N.35), (N.36), (N.37), (N.38), (N.39), (N.40), (N.41);
- N.3.8.4: change to text;
- N.3.9: change to Formulae (N.42), (N.43), (N.44), (N.45), (N.46), (N.47), (N.48), (N.49), (N.50), (N.51);
- N.3.10: new Table N.4;
- N.4: deletion of the clause (25 pages);
- O.2.3: change to text;
- O.5: new key for Figure O.2;
- Annex P: creation of the new annex on Spanish gauges (42 pages);
- Annex Q: new reference to EN 15273-1:2013;
- Annex R: new introduction;
- R.2: change to text at points 8), 9) and 11);