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I.S. EN 13803-2:2006+A1:2009

Railway applications - Track - Track alignment design parameters - Track gauges 1 435 mm and wider - Part 2: Switches and crossings and comparable alignment design situations with abrupt changes of curvature

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EUROPEAN STANDARD

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EN 13803-2:2006+A1

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English Version

Railway applications - Track - Track alignment design parameters - Track gauges 1 435 mm and wider - Part 2: Switches and crossings and comparable alignment design situations with abrupt changes of curvature

Applications ferroviaires - Voie - Paramètres de conception du tracé de la voie - Écartement 1 435 mm et plus large - Partie 2: Appareils de voie et situations comparables de conception du tracé avec changements brusques de courbure

Bahnanwendungen - Oberbau - Linienführung in Gleisen - Spurweiten 1 435 mm und größer - Teil 2: Weichen und Kreuzungen sowie vergleichbare Trassierungselemente mit unvermitteltem Krümmungswechsel

This European Standard was approved by CEN on 4 November 2006 and includes Corrigendum 1 issued by CEN on 11 July 2007 and Amendment 1 approved by CEN on 19 October 2009.

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Foreword

This document (EN 13803-2:2006+A1:2009) 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of an identical text or by endorsement, at the latest by May 2010 and conflicting national standards shall be withdrawn at the latest by May 2010.

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 European Standard includes Corrigendum 1 issued by CEN on 11 July 2007 and Amendment 1 approved by CEN on 19 October 2009.

This document supersedes EN 13803-2:2006.

The start and finish of text introduced or altered by amendment is indicated in the text by tags ▌A1⟩ ⟨A1▐.

The modifications of the related CEN Corrigendum have been implemented at the appropriate places in the text and are indicated by the tags ▌AC⟩ ⟨AC▐.

▌A1⟩ 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 essential requirements of EU Directive 2008/57/EC. ⟨A1▐

▌A1⟩ For relationship with EU Directive 2008/57/EC, see informative Annex ZA, which is an integral part of this document. ⟨A1▐

EN 13803 "Railway applications — Track — Track alignment design parameters — Track gauges ▌AC⟩ 1 435 ⟨AC▐ mm and wider" consists of the following parts:

— Part 1: Plain line;

— Part 2: Switches and crossings and comparable alignment design situations with abrupt changes of curvature.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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1 Scope

This European Standard specifies the rules and values for the track alignment design parameters used to determine the maximum operating speeds over tracks with abrupt changes in curvature and, consequently, abrupt changes of cant deficiency. Such conditions occur in the following situations:

— in the diverging tracks in switch and crossing layouts;

— when it is not practical to design an alignment with transition curves;

— if the length of a transition curve is less than the minimum required for plain line track.

Engineering requirements specific to the mechanical behaviour of switch and crossing components and subsystems are to be found in the relevant standards.

This European Standard presupposes that the homologation of the operating vehicles will be valid and specified for conditions corresponding to the limiting values specified in this European Standard.

This European Standard is applicable to abrupt changes in curvature in switch and crossing layouts and plain lines with track gauges of ▌AC〉 1 435 〈AC▌ mm and wider. Annex C is applicable to track gauges wider than ▌AC〉 1 435 〈AC▌ mm.

This European Standard specifies the requirements for preventing buffer locking.

The limiting values specified in this European Standard, when applied at the switch toe, are for switches with tangential geometry (as defined in EN 13232-1).

This European Standard need not be applicable to certain urban and suburban lines.

This European Standard is not applicable to track alignment requirements for tilting body vehicles. However, Annex H draws the designer's attention to the consequences and the restrictions imposed when tilting vehicles are operated over switch and crossing layouts and alignments without transition curves.

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 13232-1:2003, *Railway applications — Track — Switches and crossings — Part 1: Definitions*

EN 13232-9, *Railway applications — Track — Switches and crossings — Part 9: Layouts*

ENV 13803-1:2002, *Railway applications — Track alignment design parameters — Track gauges 1435 mm and wider — Part 1: Plain line*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13232-1:2003 and ENV 13803-1:2002 and the following apply.

3.1
abrupt change of cant deficiency ▌AC〉
ΔI 〈AC▌
abrupt change of the cant deficiency and/or cant excess due to an abrupt change in curvature

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