

Railway applications - Track - Track geometry quality -  
Part 3: Measuring systems - Track construction and  
maintenance machines

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ICS 93.100

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EUROPEAN STANDARD

**EN 13848-3**

NORME EUROPÉENNE

EUROPÄISCHE NORM

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Supersedes EN 13848-3:2009

English Version

**Railway applications - Track - Track geometry quality -  
Part 3: Measuring systems - Track construction and  
maintenance machines**

Applications ferroviaires - Voie - Qualité géométrique  
de la voie - Partie 3 : Systèmes de mesure - Engins de  
construction et de maintenance de la voie

Bahnanwendungen - Oberbau - Gleislagequalität - Teil  
3: Messsysteme - Gleisbau- und  
Instandhaltungsmaschinen

This European Standard was approved by CEN on 24 October 2021.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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

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## European foreword

This document (EN 13848-3:2021) 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of an identical text or by endorsement, at the latest by June 2022, and conflicting national standards shall be withdrawn at the latest by June 2022.

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

This document supersedes EN 13848-3:2009.

The main differences between this version and the previous version are the following:

- Formula (1) has been revised using the Math Type tool.
- Table D.1 has been drafted as a table rather than a figure.

This document is one of the series EN 13848 “*Railway applications — Track — Track Geometry quality*” as listed below:

- *Part 1: Characterization of track geometry*
- *Part 2: Measuring systems — Track recording vehicles*
- *Part 3: Measuring systems — Track construction and maintenance machines*
- *Part 4: Measuring systems — Manual and lightweight devices*
- *Part 5: Geometric quality levels*
- *Part 6: Characterization of track geometry quality*

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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

## 1 Scope

This document specifies the minimum requirements for measuring systems fitted on track construction and maintenance machines to give an evaluation of track geometry quality when they measure any one or several of the parameters described in EN 13848-1.

This document also gives the acceptable differences from EN 13848-1 when using chord measurements.

This document does not specify:

- requirements for vehicle acceptance;
- criteria for track works acceptance;
- requirements for Urban Rail Systems.

Only systems put into service after the document comes into force are concerned.

## 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 13848-1:2019, *Railway applications — Track — Track geometry quality — Part 1: Characterization of track geometry*

EN 13848-2:2020, *Railway applications — Track — Track geometry quality — Part 2: Measuring systems — Track recording vehicles*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

### 3.1 track construction and maintenance machine

OTMM

self-propelled or hauled machine/vehicle which is used in construction, maintenance and/or improvement of the quality of the infrastructure and which is equipped with a track geometry measuring system

Note 1 to entry: Track construction and maintenance machines are part of on-track machines (OTM).

### 3.2 sensor

device which detects, measures and translates characteristics of track geometry into quantities that can be used for further data processing