



BSI Standards Publication

Railway applications — Track — Railbound construction and maintenance machines

Part 2: Technical requirements for travelling and working

National foreword

This British Standard is the UK implementation of EN 14033-2:2017. It supersedes BS EN 14033-2:2008+A1:2011, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee RAE/2, Railway Applications - Track.

A list of organizations represented on this committee can be obtained on request to its secretary.

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When speeds in km/h require unit conversion for use in the UK, users are advised to use equivalent values rounded to the nearest whole number. The use of absolute values for converted units should be avoided in these cases. Please refer to the table below for agreed conversion figures:

INS, RST and ENE speed conversions	
km/h	mph
5	3
10	5
20	10
30	20
80	50
160	100
190	120

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Contents

Page

European foreword	7
Introduction.....	9
1 Scope	10
1.1 General	10
1.2 Validity of this European Standard	11
2 Normative references	11
3 Terms and definitions.....	12
4 Field of use of machines	13
5 Specific railway requirements and/or measures	13
5.1 Interaction with the Infrastructure	13
5.1.1 General	13
5.1.2 Stress induced into the rails	13
5.1.3 Auxiliary wheels, auxiliary guides and working parts.....	14
5.1.4 Maximum wheel loads	15
5.1.5 Loads applied to the ballast	17
5.1.6 Loads applied to the formation	17
5.1.7 Loads on structures	17
5.2 Stability and safety against derailment.....	18
5.2.1 Proof of overturning stability, machine stationary.....	18
5.2.2 Prevention of derailment in travelling mode.....	20
5.2.3 Prevention of derailment during working movements.....	20
5.3 Machine gauge	23
5.3.1 Stowing of moveable machine parts in travelling mode	23
5.3.2 Working gauge.....	24
5.3.3 Exceedance of gauge in working mode	25
5.4 Working places.....	25
5.4.1 General	25
5.4.2 Arrangement of working places.....	25
5.4.3 Work positions - Visibility	25
5.4.4 Cabin windows used solely for working.....	25
5.5 Access to working places	26
5.5.1 General	26
5.5.2 Access to working places	26
5.6 Influences on the environment.....	26
5.6.1 Exhaust gases	26
5.6.2 Noise levels outside the machine.....	26
5.7 Electromagnetic compatibility	26
5.8 Protection from risks due to electric traction equipment.....	26
5.8.1 General	26
5.8.2 Protection from live overhead lines	26
5.8.3 Minimum safety distance between machine parts and overhead line equipment. 27	
5.8.4 Minimum safety distance between machine parts and conductor rail.....	27
5.8.5 Special earthing devices and/or protection from return traction currents	28
5.8.6 Use of a pantograph for other than traction use	28
5.9 Protection from the risks of fire.....	28

5.9.1	Material requirements	28
5.9.2	Fire detection and extinguishing systems	28
5.9.3	Fire extinguishing outside of the machine	28
5.10	Lighting for work	28
5.11	Visibility of machines	28
5.11.1	Marker lights for warning in travelling mode.....	28
5.11.2	Additional marker lights.....	29
5.12	Braking.....	29
5.12.1	General	29
5.12.2	Stopping distances	29
5.12.3	Holding on gradients	30
5.13	Warning systems.....	30
5.13.1	System for warning personnel of traffic on adjacent tracks	30
5.13.2	System for warning in travelling mode	31
5.14	Recovery conditions	31
5.15	Data recording	31
5.16	Parameters which influence ground based systems	31
5.17	Traction equipment.....	31
5.18	Laser equipment.....	32
5.19	Remote control	32
6	Verification of the conformity to the requirements and/or particular safety measures.....	32
6.1	General	32
6.2	Methods of testing	32
6.2.1	General	32
6.2.2	Visual check.....	32
6.2.3	Measurement	32
6.2.4	Functional test	33
6.2.5	Load test(s)	33
6.2.6	Specific verification/measurements	33
7	User information.....	33
7.1	General	33
7.1.1	Instructions.....	33
7.1.2	Special operating instructions.....	33
7.1.3	Maintenance instructions.....	35
7.2	Warning signs and pictograms	35
8	Marking of machines	35
Annex A	(normative) Special national conditions	36
Annex B	(normative) Check list for conformity.....	41
Annex C	(normative) Warning plate	43
Annex D	(informative) Working gauge	44
D.1	General	44
D.1.1	Introduction	44
D.1.2	Scope	44
D.1.3	List of symbols used.....	44
D.2	Determination of the horizontal working limit.....	47
D.2.1	General	47
D.2.2	Characteristics of the working track and the machine	48
D.2.3	Characteristics of a standard vehicle travelling on the adjacent line in service	48

D.3	Calculation of the reductions for the limit line of Figure D.2, applicable to the critical parts of the machine	48
D.4	Determination of clearance of the working parts.....	49
D.4.1	General	49
D.4.2	Method of calculation	50
D.4.3	Addition for curvature, for working parts (Z_b)	50
D.4.4	Addition for cant (Z_u).....	50
D.4.5	Addition for safety (z_s).....	50
D.4.6	Kinematic clearance necessary for a standard vehicle on the track in service (RB_k).....	51
D.4.7	Possible exterior clearance for a working part (AW_z)	51
Annex E	(normative) Technical documentation.....	57
E.1	General	57
E.2	General notices on the machine	57
E.3	Assembly drawing indicating the following:	57
E.4	Detailed drawings indicating the following:.....	57
E.5	Detailed drawings with the following indications.....	57
E.6	Technical details.....	58
E.7	Possible functions of the working parts.....	58
Annex F	(normative) Limiting geometric parameters of the degraded working track	59
Annex G	(normative) Pictograms — Pictogram “Working direction”	60
Annex H	(informative) Method of calculating safety against derailment.....	61
H.1	Calculation of the safety against derailment	61
H.1.1	General	61
H.1.2	Calculation of the vehicle testing twist.....	62
H.1.3	Limit value of the safety against derailment	62
H.1.4	Guiding force and vertical wheel-load of the leading wheel.....	63
H.1.5	Guiding force and vertical wheel-load of the leading wheel in the working load case	63
H.1.6	Calculation of the torsional stiffness of the vehicle.....	64
Annex I	(informative) Procedure for working authorization.....	67
I.1	General	67
I.2	Validity and application of the authorization to work.....	67
I.2.1	Validity	67
I.2.2	Field of application	67
I.2.3	Enlargement of field of application.....	67
I.2.4	Withdrawal of the authorization to work.....	67
I.2.5	Renewal of the authorization to work	67
I.3	Applications for authorization to work.....	68
I.4	Submission of the technical documentation.....	68
I.5	Type testing	68
I.6	Quality testing.....	68
I.7	Type approval.....	68
I.8	Examining the finished machine	69
I.9	Authorization to work for machines identical to a machine that has received type approval.....	69
I.10	Refusal of working authorization	69
I.11	Validity of working authorization	69
I.12	Procedure for working agreement.....	70
Annex J	(informative) Basis of calculations.....	71
J.1	Machines without load control devices	71

J.2	Machines with load control devices.....	71
	Annex K (informative) Instruction handbook.....	72
	Annex L (normative) Design specification for earthing pantograph(s) where permitted on individual infrastructures	74
L.1	Object.....	74
L.2	Position of the pantograph.....	75
L.3	Maintaining contact between the equipotential contact strip and the contact wire.....	75
L.4	Contact strip design	75
L.5	Electrical connection between the equipotential pantograph head and the rail....	75
	Annex M (informative) Structure of European Standards for track construction and maintenance machines.....	77
	Bibliography	79
Tables		
	Table 1 — Stress limit in the rails.....	14
	Table 2 — Maximum wheel load with the machine in travelling and working mode for machines without wheel load control devices.....	16
	Table 3 —Maximum wheel load with the machine in working and travelling mode for machine that do not lift a load or machine that lift a load with wheel load control devices	17
	Table 4 — Load cases for calculating stability	19
	Table 5 — Load cases for testing prevention of overturning.....	20
	Table 6 — Comparison of track parameters.....	21
	Table 7 — Minimum safety distance between machine parts and overhead line equipment.....	27
	Table 8 — Minimum safety distance between machine parts and conductor rails.....	27
	Table 9 — Maximum stopping distances.....	30
	Table A.1 — Special national conditions.....	39
	Table B.1 — Determination of safety requirements and/or safety measures.....	41
	Table F.1 — Limiting geometric parameters of the degraded working track	59
	Table M.1 — Structure of European Standards for track construction and maintenance machines.....	78
Figures		
	Figure 1 — Cross section of rail showing stress points given in Table 1	14
	Figure C.1 — Warning plate	43
	Figure C.2 — Example of general warning sign.....	43
	Figure D.1 — Position of working zones and the zone limit between the working track and the adjacent operating track	47
	Figure D.2 — Lateral working limit.....	49
	Figure D.3 — Kinematic envelope necessary for a G1 or G2 gauge vehicle on a line open to traffic on a curve of a radius $250\text{ m} \leq R < 2\,000\text{ m}$.....	53

Figure D.4 — Kinematic space “RBk” necessary for a G1 or G2 gauge standard vehicle on the operating track on a curve of with radius $2\ 000\text{ m} \leq R < 4\ 000\text{ m}$	54
Figure D.5 — Kinematic space “RBk” necessary for a G1 or G2 gauge vehicle on the operating track on a curve of with radius $R \geq 4\ 000\text{ m}$	55
Figure D.6 — Representation of calculating variants of the permissible working distance AW_z	56
Figure G.1 — Example of pictograms denoting working directions.....	60
Figure I.1 — Procedure for working agreement.....	70
Figure L.1 —Principle of equipotential bonding (example).....	74
Figure L.2 —Contact strip freedom of movement - Example of an equipotential pantograph.....	75
Figure M.1 — Flowchart of European Standards for track construction and maintenance machines.....	77

European foreword

This document (EN 14033-2:2017) 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 2017, and conflicting national standards shall be withdrawn at the latest by November 2017.

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 supersedes EN 14033-2:2008+A1:2011.

This series of standards EN 14033, *Railway applications — Track — Railbound construction and maintenance machines*, consists of the following parts:

- *Part 1: Technical requirements for running;*
- *Part 2: Technical requirements for travelling and working;*
- *Part 3: General safety requirements.*

Amended clauses compared to EN 14033-2:2008+A1:2011:

General	Addition of travelling mode for machines, when moving between sites and not in running mode
General	All references updated to latest issue
5.1.2	Additional diagram added to clarify stress points
5.2.1.1	Devices attached to rail to prevent overturning have been forbidden
5.2.1.2	No longer permitted to exempt proof of stability by testing
5.2.2	New subclause for prevention of derailment in running mode
5.2.3.2.1	New Table 6 to show comparison between track parameters in EN 14363 and degraded working track
5.2.3.3	Rules for deviating from prevention of derailment extended for rail cranes
5.3.1	Requirements for gauge in travelling mode added
5.3.2.2.1	Lateral limit conditions in working mode clarified
5.3.2.2.2	More than one lateral working limit now permitted
5.3.2.2.4	Warning light colour changed from red to orange
5.3.3	Previous requirement for working limit in lower area withdrawn and replaced by general requirement about exceeding gauge
5.4.2	New requirement for work surface added
5.5.2	Requirement for steps and handrails added

5.8.2	Reminder for size of electrical bonding added
5.8.6	New section for pantographs added
5.9.1	Material requirements updated
5.9.2	New section for fire detection and extinguishing systems added
5.11	Additional requirements for marker lights added
5.12.1	Additional requirement for travelling and working brake added
5.12.2	Relaxation permitted for stopping distance at slow speed, with additional requirements for brake architecture
5.12.3	Requirement for all potentially independent vehicles to have parking brake
5.13.2	Additional requirement for warning horn in travelling mode added
5.14	Recovery conditions deleted because duplicate to running mode
5.15	New section on data recorders added
5.16	New section on compatibility with ground based systems added
5.17	New section on traction equipment added
5.18	New section on laser equipment added
5.19	New section on remote control added
Clause 8	Service number requirements deleted because duplicate to running mode
Annexes	All annexes reviewed and updated
	Annex for certification withdrawn
Annex L	New annex on earthing pantographs added

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, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This European Standard was prepared to meet the basic requirements of EU Directives to facilitate an open market for goods and services.

This document is the second of a series of three parts of the European Standard: *Railway applications — Track — Railbound construction and maintenance machines*:

- Part 1 covers the safety and technical requirements for the machines in running mode; this is a harmonized standard with the Technical Specification for Interoperability (TSI) for Locomotives and Passenger Rolling Stock Commission decision 2011/291/EU, which itself meets the essential requirements to ensure the interoperability of the rail system as described in Article 1 of European Directive 2008/57/EC;
- Part 2 covers the technical requirements for the machines in working and travelling modes;
- Part 3 covers the safety requirements for the machines in working and travelling modes; this is a harmonized standard with the European Machinery Directive 2006/42/EC.

For deviations or special national conditions, see Annex A.

The risks that exist in all mechanical, electrical, hydraulic, pneumatic and other components of machines and that are dealt with in the relevant European Standards are not within the scope of this European Standard. If necessary, references are made to appropriate standards of this type.

1 Scope

1.1 General

This European Standard defines the specific technical railway requirements for travelling and working with machines and other vehicles used for construction, maintenance and inspection of track, structures, track formation and fixed electric traction equipment as specified in EN 14033-1.

This European Standard applies to all railbound machines and other vehicles – referred to as machines – working exclusively on the railway (utilizing adhesion between the rail and rail wheels) and used for construction, maintenance and inspection of track, structures, infrastructure and fixed electric traction equipment.

This European Standard applies to machines that are intended to operate signalling and control systems. Other similar machines are dealt with in other European Standards, see Annex M.

This European Standard is applicable to 1 435 mm nominal track gauge. Some requirements may be applicable for working on infrastructures with nominal narrow track gauge or nominal broad track gauge lines, tramways, railways utilizing other than adhesion between the rail and rail wheels and underground infrastructures.

This European Standard covers the safety requirements for the railway specific problems for travelling and working on different infrastructures. The application of these requirements is the object of a verification procedure, which does not form part of this European Standard, but an Annex I is included for information. In all cases an authorization to work is needed to access the infrastructure.

This European Standard is also applicable for machines that in working position are partly supported on the ballast or the formation.

This European Standard does not apply to:

- the requirements with regard to the quality of work, including the related measuring methods, and the performance of the machine;¹⁾
- the specific requirements established by each railway infrastructure manager for the use of machines which will be the subject of negotiation between the manufacturer and the machine keeper.

This European Standard does not deal with the following additional requirements:

- working methods;
- operation in severe working conditions requiring special measures (e.g. work in tunnels or in cuttings, extreme environmental conditions such as high or low temperatures, corrosive environment, tropical environment, contaminating environments, strong magnetic fields);
- operation subject to special rules (e.g. potentially explosive atmospheres);
- hazards due to errors in software;
- hazards occurring when used to handle suspended loads which may swing freely;

1) Parameters for the measurement of track quality are dealt with in EN 13848-3.