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Railway applications - Railway rolling stock - Draw gear and screw coupling

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 02/17

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English Version

**Railway applications - Railway rolling stock - Draw gear
and screw coupling**

Applications ferroviaires - Matériel roulant ferroviaire
- Organes de traction et tendeur d'attelage

Bahnanwendungen - Schienenfahrzeuge -
Zugeinrichtung und Schraubenkupplung

This European Standard was approved by CEN on 8 July 2016.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Contents

Page

European foreword.....	7
Introduction	9
1 Scope	10
2 Normative references	10
3 Terms and definitions	11
4 Requirements for all types of draw gear and screw coupling.....	13
4.1 Classification and designation.....	13
4.2 Interaction coupling/buffer	13
4.3 Interface dimension for freight wagons.....	14
4.4 Life time	15
5 Draw gear	16
5.1 Draw gear components	16
5.2 Draw hook and drawbar – Requirements	18
6 Screw coupling	18
6.1 General requirements	18
6.2 Screw coupling – Requirements.....	20
7 Elastic device	20
7.1 Characteristics of elastic device.....	20
7.2 Elastic device – Requirements.....	21
Annex A (normative) Dynamic test (fatigue test) procedure.....	22
A.1 Background	22
A.2 Performance of the test.....	22
A.2.1 Conditioning.....	22
A.2.2 Dynamic test (fatigue test).....	22
A.2.3 Non-destructive tests.....	24
A.2.4 Determination of residual strength.....	24
A.2.5 Macrographic and Micrographic tests.....	24
A.3 Criteria of acceptance	24
Annex B (normative) Draw hook – dimensions.....	25
Annex C (normative) Draw gear – Interface dimension.....	26
Annex D (normative) Screw coupling components – dimensions	27
Annex E (normative) Draw hook and drawbar – Requirements.....	29
E.1 Physical characteristics	29
E.1.1 Appearance.....	29
E.1.2 Integrity	29

E.1.3	Material examination	29
E.2	Geometrical characteristics	30
E.3	Mechanical characteristics.....	30
E.3.1	Tensile test on test piece.....	30
E.3.2	Resilience.....	30
E.3.3	Hardness	30
E.3.4	Tensile test on draw hook and draw bar	30
E.3.5	Compressive test on draw hook for locomotives	31
E.4	Marking	31
E.5	Manufacture.....	31
E.5.1	General on draw bars	31
E.5.2	General on draw hooks.....	31
E.5.3	Machining	31
E.5.4	Heat treatment	31
E.5.5	Rectification of defects.....	32
E.6	Acceptance	32
E.6.1	General	32
E.6.2	Inspection of the draw hooks	32
E.6.3	Inspection of draw bars.....	37
E.6.4	Conclusion of the inspections.....	38
E.7	Delivery	38
E.7.1	Protection against oxidation	38
E.7.2	Packaging.....	38
Annex F (normative)	Screw coupling and component parts – Requirements	39
F.1	Material	39
F.2	Physical characteristics.....	39
F.2.1	Appearance	39
F.2.2	Soundness.....	39
F.2.3	Additional requirements for screw couplings	40
F.3	Geometrical characteristics.....	40
F.3.1	General	40
F.3.2	Dimensions limited either by two unmachined or rough-machined surfaces or by one unmachined or rough-machined surface	40
F.3.3	Dimensions limited by two machined surfaces	41
F.4	Mechanical characteristics.....	41
F.4.1	Heat treatment	41
F.4.2	Hardness	41

F.4.3	Values for predetermined breaking loads for the weakest part.....	41
F.4.4	Resilience	42
F.4.5	Requirements for screw coupling.....	42
F.4.6	Requirement for handle and trunnion.....	43
F.5	Marking.....	44
F.6	Manufacture	44
F.6.1	Preparation of the materials.....	44
F.6.2	Manufacture of the component parts	44
F.7	Acceptance.....	46
F.7.1	General.....	46
F.7.2	Inspection of the manufacture	46
F.8	Inspection of the materials, component parts and screw couplings.....	46
F.8.1	Materials submission for acceptance.....	46
F.8.2	Grouping into batches	47
F.8.3	Nature and proportion of the tests	47
F.8.4	Sampling and preparation of the samples and test pieces.....	48
F.8.5	Carrying out of the checks and tests.....	52
F.9	Completion of inspections.....	53
F.10	Delivery.....	54
F.10.1	Protection against oxidation.....	54
F.10.2	Packing.....	54
Annex G (normative)	Elastic device – Requirements	55
G.1	Rubber elastomer or other elastomer elastic device.....	55
G.1.1	General.....	55
G.1.2	Metal inserts requirements.....	55
G.1.3	Elastomer requirements	55
G.1.4	Static test.....	57
G.1.5	Endurance test	58
G.1.6	Bonding.....	59
G.1.7	Inspection and Tests	59
G.1.8	Markings.....	60
G.2	Friction spring/Ring spring.....	61
G.2.1	Manufacturer's marks	61
G.2.2	Flexibility test.....	61
G.2.3	Endurance test	62
Annex H (normative)	Marking.....	63

H.1	General	63
H.2	Marking of the screw coupling.....	63
H.3	Draw gear	64
H.4	Draw bar	64
H.5	Summary of markings.....	65
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2008/57/EC		66
Bibliography		68
Figures		
Figure 1	— Force-stroke diagram for stored and absorbed energy	12
Figure 2	— Support plate – Interface dimension for freight wagons.....	15
Figure 3	— Draw gear – Assembly	17
Figure 4	— Standard screw coupling with non-loosening hinged ball handle	19
Figure 5	— Standard screw coupling with hinged handle with non-loosening upper rest.....	20
Figure A.1	— Example of Load cycles Step 1 and Step 2.....	23
Figure B.1	— Draw hook.....	25
Figure C.1	— Drawbar with “fork” and safety device	26
Figure C.2	— Joint pin	26
Figure D.1	— Coupling hook pin	27
Figure D.4	— Shackle	28
Figure E.1	— Location of the test samples	34
Figure E.2	— Marking of the draw hook for the tensile test.....	35
Figure E.3	— Location of the test samples	37
Figure F.1	— Location of the measurement of the deformation of the screw coupling.....	42
Figure F.2	— Test facility for the tensile test of the screw coupling.....	43
Figure F.3	— Measurement of the screw coupling.....	43
Figure F.4	— Permitted depth of the fold in thread profile	45
Figure F.5	— Screw – test sample location.....	49
Figure F.6	— Shackle – test sample location	50
Figure F.7	— Coupling link – test sample location	50
Figure F.8	— Trunnion nut (link fitting) – test sample location	51
Figure F.9	— Trunnion nut (shackle fitting) – test sample location.....	51
Figure F.10	— Pin – test sample location.....	52
Figure G.1	— Elastic device – load cycle for endurance test.....	58
Figure G.2	— Elastic device – Set up for endurance test	59
Figure H.1	— Location of mark	64
Figure H.2	— Mark dimension.....	64

Tables

Table 1 — Classification of coupling by designation of the minimum breaking load	13
Table A.1 — Pre-loading values	22
Table A.2 — Condition of dynamic tests for all parts except screw coupling	23
Table A.3 — Condition of dynamic tests for screw coupling.....	24
Table E.1 — Requirements.....	30
Table E.2 — Checks and tests	33
Table F.1 — Requirements.....	40
Table F.2 — load of link.....	41
Table F.3 — Breaking load screw	41
Table F.4 — Proportion of the tests - Finished products and component parts	48
Table G.1 — Characteristics of the constituents	55
Table G.2 — Nature of inspections and tests	60
Table G.3 — Number of flexibility tests per batch of springs	62
Table H.1 — Marking.....	65
Table ZA.1 — Correspondence between this European Standard, the Commission Regulation concerning the technical specification for interoperability relating to the subsystem ‘rolling stock - freight wagons’ of the rail system in the European Union and repealing Commission Decision 321/2013/EC, as amended by Commission Regulation (EU) 2015/924 (published in the Official Journal L 150, 17.06.2015, p.10); and Directive 2016/797/EC	66
Table ZA.2 — Correspondence between this European Standard, the Commission regulation (EU) No 1302/2014 of 18 November 2014 concerning the technical specification for interoperability relating to the ‘rolling stock locomotives and passenger rolling stock’ of the rail system in the European Union (published in the Official Journal L 356, 12.12.2014, p.228) and Directive 2008/57/EC	67

European foreword

This document (EN 15566:2016) 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 March 2017, and conflicting national standards shall be withdrawn at the latest by March 2017.

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 15566:2009+A1:2010.

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

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

Modifications

Compared with EN 15566:2009+A1:2010 the following main changes have been done:

- a) checking and revision of Clause 2 – Normative references;
- b) modification in Clause 3 – working capacity (3.8) was deleted and intermediate coupling system for permanent coupled wagons now defined as permanent coupling system;
- c) in Clause 4, requirements for compressive loads for draw hook and draw gear rationalised and explained;
- d) in Clause 7, the required value changed into mandatory and given in SI-Unit;
- e) changes in Annex A with respect to the implementation of the dynamic test;
 - new specification of the test load for the residual strength;
 - the macrographic and micrographic tests were added;
 - acceptance criteria were added;
 - modification in Table A.2 and A.3 (rows of survival probability and safety factor were deleted);
- f) revision of Annex E and Annex F to get a similar structure and the requirements of the raw material are defined in the new tables Table E.1 and Table F.1. The marking in Annex E and Annex F were moved into the new Annex H – Marking;
- g) revision of Annex G;
 - specification of the maximum deviation of type test to serial test;
 - revision of Table G.2;

- h) new Annex H – Marking with the marking system for draw hook, draw gear, draw bar and screw coupling as well the new Table H.1 – Marking as summary;
- i) modification of the following figures:
 - Figure 2 – Support plate;
 - Figure 3 – Draw gear;
 - Figure A.1 – Example of load cycles Step 1 and Step 2;
 - Figure E.2 – Marking of the draw hook for the tensile test;
 - Figure E.3 – Location of the test samples (item numbers);
 - Figure F.7 – Coupling link – test samples location (item numbers);
 - Figure F.8 and F.9 – Trunnion nut (item numbers);
 - shifted Figures from Annex E and Annex F to Annex H;
- j) editorial modifications.

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

Introduction

This European Standard is based on UIC 520, UIC 825, UIC 826, UIC 827-1 and UIC 827-2.

1 Scope

This standard specifies the requirements for the draw gear and screw coupling for the end of rolling stock that has to couple with other rolling stock (freight wagons, locomotives, passenger vehicles ...).

This standard covers the functionality, construction, interfaces and testing including pass/fail criteria for draw gear and screw coupling.

The standard describes three categories of classification of draw gear and screw coupling, (1 MN, 1,2 MN and 1,5 MN).

Coupling systems between permanent coupled vehicle units are not in the scope of this standard.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 10021, *General technical delivery conditions for steel products*

EN 10025 (all parts), *Hot rolled products of structural steels*

EN 10079, *Definition of steel products*

EN 10083 (all parts), *Steels for quenching and tempering*

EN 10168, *Steel products - Inspection documents - List of information and description*

EN 10204, *Metallic products - Types of inspection documents*

EN 10228-1, *Non-destructive testing of steel forgings - Part 1: Magnetic particle inspection*

EN 10228-2, *Non-destructive testing of steel forgings - Part 2: Penetrant testing*

EN 10243 (all parts), *Steel die forgings — Tolerances on dimensions*

EN 10247, *Micrographic examination of the non-metallic inclusion content of steels using standard pictures*

EN 10308, *Non destructive testing - Ultrasonic testing of steel bars*

EN ISO 148 (all parts), *Metallic materials — Charpy pendulum impact test*

EN ISO 377, *Steel and steel products - Location and preparation of samples and test pieces for mechanical testing (ISO 377)*

EN ISO 643, *Steels - Micrographic determination of the apparent grain size (ISO 643)*

EN ISO 6506-1, *Metallic materials - Brinell hardness test - Part 1: Test method (ISO 6506-1)*

EN ISO 6892-1, *Metallic materials - Tensile testing - Part 1: Method of test at room temperature (ISO 6892-1)*

EN ISO 6892-2, *Metallic materials - Tensile testing - Part 2: Method of test at elevated temperature (ISO 6892-2)*

EN ISO 9606-1, *Qualification testing of welders - Fusion welding - Part 1: Steels (ISO 9606-1 including Cor 1)*

ISO 37, *Rubber, vulcanized or thermoplastic — Determination of tensile stress-strain properties*

ISO 48, *Rubber, vulcanized or thermoplastic — Determination of hardness (hardness between 10 IRHD and 100 IRHD)*

ISO 188, *Rubber, vulcanized or thermoplastic — Accelerated ageing and heat resistance tests*

ISO 813, *Rubber, vulcanized or thermoplastic — Determination of adhesion to a rigid substrate — 90 degree peel method*

ISO 815-1, *Rubber, vulcanized or thermoplastic — Determination of compression set — Part 1: At ambient or elevated temperatures*

ISO 815-2, *Rubber, vulcanized or thermoplastic — Determination of compression set — Part 2: At low temperatures*

ISO 4967, *Steel — Determination of content of non-metallic inclusions — Micrographic method using standard diagrams*

ISO 4968, *Steel — Macrographic examination by sulfur print (Baumann method)*

ISO 7619-1, *Rubber, vulcanized or thermoplastic — Determination of indentation hardness — Part 1: Durometer method (Shore hardness)*

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