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Carrier Cycles - Part 2: Lightweight single track carrier cycles - Mechanical aspects

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>See Eesti standard EVS-EN 17860-2:2024 sisaldab Euroopa standardi EN 17860-2:2024 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 11.09.2024.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN 17860-2:2024 consists of the English text of the European standard EN 17860-2:2024.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 11.09.2024.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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EUROPEAN STANDARD

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Cycles utilitaires - Partie 2 : Cycles utilitaires légers à 2 roues - Aspects mécaniques

Lastenfahrräder - Teil 2: Leichte einspurige Lastenfahrräder - Mechanische Aspekte

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COMITÉ EUROPÉEN DE NORMALISATION
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Contents	Page
European foreword	7
Introduction	8
1 Scope	9
2 Normative references	9
3 Terms and definitions	10
4 Use cases: private and commercial/professional use	10
5 General vehicle requirements	10
5.1 Numbers and condition of specimens for the strength tests	10
5.2 Accuracy tolerances of test conditions for brake tests and strength tests	11
5.3 Protrusions	11
5.4 Sharp edges	11
5.5 Securing and strength of safety-relevant fasteners	11
5.5.1 General	11
5.5.2 Minimum failure torque	11
5.5.3 Mechanism for folding carrier cycles	11
5.6 Steering function	12
5.6.1 General	12
5.6.2 Steering — Rigidity and strength test for indirect steering systems	12
5.6.3 Dynamic steering fatigue test for indirect steering	15
5.7 Shimmy	15
5.8 Requirements for loading areas/load securing	15
5.9 Parking and stability	16
5.9.1 Requirement	16
5.9.2 Test method	16
5.10 Pedal clearance	18
5.10.1 Ground clearance	18
5.10.2 Toe clearance	18
5.11 Wheel and tyre assembly - clearance	19
5.12 Wheel retention	19
5.12.1 General	19
5.13 Luggage carriers	20
5.14 Vibrations, ergonomics and design	20
5.14.1 Vibrations	20
5.14.2 Ergonomics	20
6 Brakes	20
6.1 General	20
6.2 Hand-operated brakes	20
6.2.1 Brake lever position	20
6.2.2 Brake lever grip dimensions	21
6.3 Requirements of the test method on a test track	23
6.4 Requirements of the test method on a test bench	23
6.5 Tests	24
6.5.1 Test method on a test track	24
6.5.2 Test method on a test bench	26

7	Steering unit	30
7.1	Handlebar dimensions	30
7.1.1	General	30
7.1.2	Handlebar stem – Insertion-depth mark or positive stop	31
7.1.3	Handlebar stem to fork steerer – Clamping requirements	31
7.2	Handlebar grips or handlebar plugs	31
7.2.1	Requirements	31
7.2.2	Freezing test method	32
7.2.3	Hot water test method	32
7.3	Steering unit – Static strength and fastening tests	33
7.3.1	Steering unit – Lateral bending test	33
7.3.2	Handlebar stem - Forward bending test	33
7.3.3	Handlebar to handlebar stem — Torsional security test	34
7.3.4	Bar end to handlebar – Torsional security test	35
7.4	Handlebar/stem unit – Dynamic test	36
7.4.1	General	36
7.4.2	Test method for stage 1	36
7.4.3	Test method for stage 2	37
8	Frame	38
8.1	Suspension frames — Special requirements	38
8.2	Requirements for all frame types	38
8.3	Frame – Dynamic test with pedalling forces	38
8.3.1	General	38
8.3.2	Test method	38
8.4	Frame – Dynamic test with horizontal forces	40
8.4.1	General	40
8.4.2	Determination of the test loads	40
8.4.3	Test method	41
8.5	Frame — Dynamic test with a vertical force onto the seat-post	41
8.5.1	General	41
8.5.2	Test method	42
8.6	Frame – Dynamic test with vertical forces onto the loading area	43
8.6.1	General	43
8.6.2	Test method	43
8.7	Frame and front fork assembly – Impact test (falling frame)	44
8.7.1	General	44
8.7.2	Requirement	44
8.7.3	Test method	44
9	Front wheel fork	46
9.1	General	46
9.2	Installation of the axle and wheel fastening	46
9.3	Front wheel fork — Static bending test	46
9.3.1	Requirements	46
9.3.2	Test method	46
9.4	Front wheel forks — Dynamic bending test	47
9.4.1	General	47
9.4.2	Requirement	47
9.4.3	Test method	47
9.5	Front wheel fork — Rearward impact test	48
9.5.1	Requirement	48
9.5.2	Test method 1	48
9.5.3	Test method 2	49

9.6	Front forks for use with hub or disc brakes	51
9.6.1	Requirement.....	51
9.6.2	Front fork for hub/disc brake — Dynamic test of the brake mounting.....	51
9.6.3	Front fork for hub/disc brake – Static braking torque test.....	51
10	Wheels and wheel/tyre assembly	52
10.1	Wheels/tyre assembly – Concentricity tolerance and lateral tolerance	52
10.1.1	Requirements.....	52
10.1.2	Test method.....	52
10.2	Wheel/tyre assembly – Static strength test.....	53
10.2.1	Requirement.....	53
10.2.2	Test method.....	53
10.3	Wheel and wheel/tyre unit — Dynamic test for carrier cycles.....	54
10.3.1	Requirement.....	54
10.3.2	Test method.....	54
10.4	Tyre inflation pressure.....	55
10.5	Tyre and rim compatibility	56
10.5.1	General.....	56
10.5.2	Wheel/ tyre assembly preparation.....	56
10.5.3	Test method.....	56
11	Front mudguard	56
11.1	Requirement.....	56
11.2	Front mudguard with stays test method.....	56
11.2.1	Stage 1: Test method – Tangential obstruction.....	56
11.2.2	Stage 2: Test method – Mudguard stays impact test	57
11.2.3	Stage 3: Test method – Radial force after impact.....	58
11.3	Front mudguard without stays test methods.....	58
12	Pedals and pedal/crank drive system	58
12.1	Pedal tread	58
12.1.1	Tread surface.....	58
12.1.2	Toe clips	58
12.2	Pedal – Static strength test	59
12.2.1	Requirement.....	59
12.2.2	Test method	59
12.3	Pedal – Impact test.....	59
12.3.1	Requirement.....	59
12.3.2	Test method	59
12.4	Pedal – Dynamic durability test.....	59
12.4.1	Requirement.....	59
12.4.2	Test method	59
12.5	Drive system – Static strength test	59
12.6	Crank assembly – Fatigue test.....	60
12.6.1	Requirement.....	60
12.6.2	Test method	60
13	Drive-chain and drive belt	60
13.1	Drive-chain.....	60
13.2	Drive belt	60
14	Chain-wheel and belt-drive protective device	60
14.1	Requirement.....	60
14.2	Chain-wheel disc and drive pulley disc diameter	61
14.3	Chain and drive belt protective device	62
14.4	Combined front gear-change guide	63

15	Saddles/seats and seat-posts	64
15.1	Limiting dimensions	64
15.2	Seat-post — Insertion-depth mark or positive stop	64
15.3	Saddle/seat-post – Security test	64
15.3.1	Saddles with adjustment-clamps	64
15.3.2	Saddles without adjustment clamps	65
15.4	Saddle and saddle rail – Static strength test	65
15.4.1	Saddle – static strength test	65
15.4.2	Saddle rail (composite) – Static strength test	65
15.4.3	Saddle and seat-post assembly – Fatigue test	65
15.5	Seat-post - Strength tests	65
15.5.1	General	65
15.5.2	Test method for step 1 (dynamic test)	65
15.5.3	Test method for step 2 (static strength test)	66
16	Lighting systems and reflectors	67
16.1	General	67
16.2	Lighting systems	67
16.3	Reflectors	67
16.4	Rear reflectors	67
16.4.1	General	67
16.4.2	Side reflectors	67
16.4.3	Front reflectors	67
16.4.4	Pedal reflectors	67
17	Warning device	68
18	Rear-view mirror	68
19	Structural integrity test	68
19.1	General	68
19.2	Requirements	68
19.3	Verification methods	68
20	Marking	69
20.1	Requirements	69
20.1.1	All markings	69
20.1.2	Frame markings	69
20.1.3	Trailer coupling markings	69
20.1.4	Component markings	70
20.2	Durability test	70
20.2.1	Requirement	70
20.2.2	Test method	70
21	Manufacturer’s instructions	70
	Annex A (informative) Vehicle configurations	74
	Annex B (informative) Reading Guide	75
	Annex C (normative) Test cycles for professional/commercial use	77
	Annex D (informative) Label	79
	Annex E (informative) Shimmy	80
	Annex F (normative) Front fork mounting device	82
	Annex G (informative) Properties of the dummy forks	83

Annex H (informative) Calculation of the centre of gravity of cycles or carrier cycles85
Annex I (informative) Rationale for the necessity of a “Complete vehicle test” 91
Annex J (informative) Rationale for the distinction between private and commercial use 93
Bibliography..... 95

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European foreword

This document (EN 17860-2:2024) has been prepared by Technical Committee CEN/TC 333 “Cycles”, the secretariat of which is held by UNI.

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 2025, and conflicting national standards shall be withdrawn at the latest by March 2025.

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 is part of standard series consisting of the following parts, users are invited to check which parts are applicable to their situation

- EN 17860-1:2023, Cycles — Carrier Cycles — Part 1: Vocabulary
- FprEN 17860-2:2023, Cycles — Carrier Cycles — Part 2: Lightweight single track carrier cycles – mechanical and functional aspects
- FprEN 17860-3:2023, Cycles — Carrier Cycles — Part 3: Lightweight multi track carrier cycles – mechanical and functional aspects
- prEN 17860-4, Cycles — Carrier Cycles — Heavyweight multi track carrier cycles – mechanical and functional aspects
- prEN 17860-5:2023, Cycles — Carrier Cycles — Electrical aspects
- prEN 17860-6, Cycles — Carrier Cycles — Passenger transport
- prEN 17860-7:2023, Cycles — Carrier Cycles — Trailers

Examples of carrier cycle configurations can be found in Annex A. Annex B provides a reading guide for parts 2,3 and 4 of this standard series.

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, Türkiye and the United Kingdom.

Introduction

This document gives requirements and test methods for mechanical and functional aspects for single track carrier cycles.

This document has been developed in response to demand throughout Europe. Its aim is to provide a standard for the assessment of mechanical aspects for single track carrier cycles of a type which are excluded from type approval by Regulation (EU) No. 168/2013.

Because of the diversity of geometries and solutions of carrier cycles not all requirements and test methods in this document may apply to every carrier cycle.

- Annex A gives an overview of vehicle configurations.
- Annex B provides a reading guide for the parts of this standard series.
- Annex J contains a rationale explaining the choices made when developing the standard series

This document is based on a risk analysis, the focus is on mechanical aspects for single track carrier cycles. This document is a type C standard as specified in EN ISO 12100. The machinery concerned and the extent to which hazards, hazardous situations and hazardous events are covered are indicated in the scope of this document.

1 Scope

This document is applicable to single track carrier cycles with or without electric assistance and a maximum gross vehicle weight of:

- 300 kg in case the manufacturer defines the carrier cycle to be intended for both private and commercial use; or
- 250 kg in case the manufacturer defines the carrier cycle to be intended for solely private use.

NOTE Requirements for electrical power assisted carrier cycles are covered in part 5 of this standard series.

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 17860-1, *Cycles — Carrier Cycles — Part 1: Terms and definitions*

EN ISO 4210-2:2023, *Cycles - Safety requirements for bicycles - Part 2: Requirements for city and trekking, young adult, mountain and racing bicycles (ISO 4210-2:2023)*

EN ISO 4210-3:2023, *Cycles - Safety requirements for bicycles - Part 3: Common test methods (ISO 4210-3:2023)*

EN ISO 4210-4:2023, *Cycles - Safety requirements for bicycles - Part 4: Braking test methods (ISO 4210-4:2023, Corrected version 2023-08)*

EN ISO 4210-6:2023, *Cycles - Safety requirements for bicycles - Part 6: Frame and fork test methods (ISO 4210-6:2023, Corrected version 2023-08)*

EN ISO 4210-7:2023, *Cycles - Safety requirements for bicycles - Part 7: Wheel and rim test methods (ISO 4210-7:2023)*

EN ISO 4210-8:2023, *Cycles - Safety requirements for bicycles - Part 8: Pedal and drive system test methods (ISO 4210-8:2023)*

EN ISO 4210-9:2023, *Cycles - Safety requirements for bicycles - Part 9: Saddles and seat-post test methods (ISO 4210-9:2023)*

ISO 5775-1:2023, *Bicycle tyres and rims — Part 1: Tyre designations and dimensions*

ISO 5775-2:2023, *Bicycle tyres and rims — Part 2: Rims*

EN ISO 11243:2023, *Cycles - Luggage carriers for bicycles - Requirements and test methods (ISO 11243:2023)*

EN ISO 12100:2010, *Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)*

ISO 9633:2001, *Cycle chains — Characteristics and test methods*

ISO 6742-1:2015, *Cycles — Lighting and retro-reflective devices — Part 1: Lighting and light signalling devices*

ISO 6742-2:2015, *Cycles — Lighting and retro-reflective devices — Part 2: Retro-reflective devices*

ISO 6742-3:2015, *Cycles — Lighting and retro-reflective devices — Part 3: Installation and use of lighting and retro-reflective devices*

ISO 14878:2015, *Cycles — Audible warning devices — Technical specification and test methods*

3 Terms and definitions

For the purposes of this document the terms and definitions given in EN 17860-1:2024 and EN ISO 12100:2010 apply.

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

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

4 Use cases: private and commercial/professional use

The requirements in the main part of this standard refer to carrier cycles for private use. In case the manufacturer defines the carrier cycles to be intended for commercial/professional use, higher test values for dynamic tests apply. Annex C gives the higher test values for the relevant tests.

Annex D shows proposals for labels for private use and commercial/professional use. Annex J contains a rationale explaining the choices made when developing the standard series.

5 General vehicle requirements

5.1 Numbers and condition of specimens for the strength tests

In general, for static, impact and fatigue tests, each test shall be conducted on a new test sample, but if only one sample is available, it is permissible to conduct all of these tests on the same sample with the sequence of testing being fatigue, static and impact.

When more than one test is conducted on the same sample, the test sequence shall be clearly recorded in the test report or record of testing.

NOTE It will be noted that if more than one test is conducted on the same sample, earlier tests can influence the results of subsequent tests. Also, if a sample fails when it has been subjected to more than one test, a direct comparison with single testing is not possible.

In all strength tests, specimens shall be in the fully-finished condition.