
Kolesa - Prtljažniki za kolesa - Zahteve in preskusne metode (ISO/DIS 11243:2022)

Cycles - Luggage carriers for bicycles - Requirements and test methods (ISO/DIS 11243:2022)

Fahrräder – Gepäckträger für Fahrräder – Anforderungen und Prüfverfahren (ISO/DIS 11243:2022)

Cycles - Porte-bagages pour bicyclettes - Exigences et méthodes d'essai (ISO/DIS 11243:2022)

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Kolesa

Cycles

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Cycles — Luggage carriers for bicycles — Requirements and test methods

Cycles — Porte-bagages pour bicyclettes — Exigences et méthodes

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Contents

Foreword.....	v
Introduction.....	vi
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions	1
4 The restrictions of maximum load capacity for the types of non cycle specific luggage carrier	3
5 Requirements and test methods	3
5.1 General.....	3
5.2 Tolerances.....	4
5.3 Crack detection methods.....	4
5.4 Sharp edges.....	4
5.5 Security of safety-related fasteners	4
5.5.1 Security of screws.....	4
5.5.2 Minimum breaking torque.....	5
5.6 Minimum requirements for rear luggage carriers to which a child seat could be attached.....	5
5.7 Protrusions	5
5.8 Rear luggage carriers — Provision for lighting.....	5
5.9 Dynamic load tests.....	5
5.9.1 Requirement.....	5
5.9.2 General loading method.....	5
5.9.3 Vertical test method	7
5.9.4 Lateral test method.....	7
5.9.5 Additional test method for child seat compatible luggage carrier.....	8
5.10 Static load test — Vertical load.....	11
5.10.1 Requirements.....	11
5.10.2 Test method.....	12
5.11 Static load test — Lateral load	12
5.11.1 Requirements.....	12
5.11.2 Test method.....	13
5.12 Static load test — longitudinal direction	14
5.12.1 General	14
5.12.2 Requirements.....	15
5.12.3 Test method.....	15
5.13 Drop impact test (only for luggage carriers of plastics or metal and plastics)	16
5.13.1 General	16
5.13.2 Requirement.....	16
5.13.3 Test method.....	16
6 Marking	16
6.1 General.....	16
6.2 Requirements.....	16
6.3 Durability test	17
6.3.1 Requirements.....	17
6.3.2 Test method.....	17
7 Instructions.....	17
8 Test report.....	18

ISO/DIS 11243:2021(E)

Annex A (normative) Test samples mounting requirements.....	19
A.1 General	19
A.2 Mounting requirement for cycle specific luggage carrier and permanently attached luggage carrier:.....	19
A.3 Non cycle specific luggage carrier mounting requirements	20
A.4 Seat-post mounting luggage carriers	21
Annex B (informative) Typical test configuration.....	23
Annex C (informative) Longitudinal dynamic load test	24
C.1 Requirements	24
C.2 Test bench	24
C.3 Longitudinal test.....	24
Annex D (informative) Examples of luggage carrier configurations	26
Annex E (informative) Examples of vertical static load application point.....	28
Annex F (informative) Test method for child seat compatible luggage carrier option1.....	30
Bibliography	32

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 149, *Cycles*, Subcommittee SC 1, *Cycles and major sub-assemblies*.

This third edition cancels and replaces the second edition (ISO 11243:2016), which has been technically revised.

The main changes compared to the previous edition are as follows:

— xxx xxxxxxxx xxx xxxxx

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

ISO/DIS 11243:2021(E)**Introduction**

This International Standard has been developed in response to demand throughout the world, and the aim has been to ensure that luggage carrier manufactured in compliance with it will be as safe as is practically possible. The tests have been designed to ensure the strength and durability of the luggage carrier, demanding high quality throughout and consideration of safety aspects from the design stage onwards.

The scope has been limited to safety considerations and has specifically avoided standardization of components.

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1 Cycles — Luggage carriers for bicycles — Requirements and test 2 methods

3 1 Scope

4 This International Standard specifies safety and performance requirements for the design and testing of
5 both non cycle specific luggage carriers intended for mounting (with or without tools) and cycle specific
6 luggage carriers mounted on complete cycles. It applies to luggage carriers intended to be positioned
7 above and adjacent to the wheels of cycles. This standard lays down guidelines for instructions on the use
8 and care of such luggage carriers.

9 This International Standard does not apply to removable luggage (for example, handlebar bags or baskets
10 that are not permanently attached).

11 Toy carrier intended to be mounted on bicycles for young children in the scope of ISO 8098 are not
12 covered by this International Standard.

13 2 Normative references

14 There are no normative references in this document.

15 3 Terms and definitions

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

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

18 — ISO Online browsing platform: available at <https://www.iso.org/obp>

19 — IEC Electropedia: available at <http://www.electropedia.org/>

21 3.1

22 cycle

23 vehicle that has at least two wheels and is propelled solely or mainly by the muscular energy of the person
24 on that vehicle, in particular by means of pedals

25 3.2

26 luggage carrier

27 device, including containers such as baskets, that is mounted and permanently attached above and/or
28 adjacent to the rear wheel(s) (in the case of a rear luggage carrier) or front wheel(s) (in the case of a front
29 luggage carrier) of a cycle and that is designed for carrying luggage or children in child seats

30 3.3

31 cycle specific luggage carrier

32 luggage carrier that are removable, designed to be mounted on a specific cycle

33 3.4

34 non cycle specific luggage carrier

35 luggage carrier sold as a separate accessory intended to be mounted on a wide range of suitable cycles

36 3.5

37 luggage carrier platform

38 flat part of the *luggage carrier* (3.2) upon which loads may be placed or fixed, or the flat top rail from
39 which panniers may be hung, or the bottom part of a container

40 Note 1 to entry: The bottom part of a container, for example a basket.

ISO/DIS 11243:2021(E)

3.6

luggage carrier platform length***L***

maximum overall length of the *luggage carrier platform* (3.5)

3.7

visible crack

crack which results from a test, wherein that crack is visible to the naked eye

[SOURCE: ISO 4210-1:2014, 2.50]

3.8

fracture

unintentional separation into two or more parts

[SOURCE: ISO 4210-1:2014, 2.20]

3.9

toy carrier

carrier with a part intended for containing a toy of a maximum weight of 1 kg

3.10

permanently attached luggage carrier

luggage carrier (3.2) which is permanently attached

Note 1 to entry: For example, luggage carrier welded to the frame.

3.11

normal rear luggage carrier

rear luggage carrier supported by fixings to the bicycle frame close to the rear wheel axle

3.12

frame-mounted beam luggage carrier

rear luggage carrier that is structurally a cantilever, fixed to the bicycle frame in front and/or above the rear wheel

Note 1 to entry: It may also be fixed to the seat post, in addition to the frame, but receives no support from the bicycle frame near to the axle of the rear wheel.

3.13

seat-post mounted beam luggage carrier

rear luggage carrier that is structurally a cantilever, fixed to the seat post of the bicycle without additional fixings to the frame

3.14

above wheel front luggage carrier

front luggage carrier with a platform upon which loads can be placed above the front wheel

3.15

low-load front luggage carrier

front luggage carrier that is exclusively designed for carrying a pair of panniers, where the “platform” is a pair of rails (from which the panniers hang), one each side of the wheel and not more than 200 mm above the lower points of attachment of the luggage carrier near to the axle of the front wheel

3.16

front mounted container

container such as a basket that is mounted and permanently attached above the front wheel of a bicycle and that is exclusively designed for carrying luggage

3.17

maximum load capacity

maximum load that can be carried

Note 1 to entry: The restrictions of maximum load capacity are defined in Table 1.

3.18**electrically power assisted cycle****EPAC**

cycle, equipped with pedals and an auxiliary electric motor, which cannot be propelled exclusively by means of this auxiliary electric motor, except in the walk assistance mode

[SOURCE: ISO/TS 4210-10:2020, 3.2]

3.19**platform height**

height measured from wheel axis to the luggage carrier platform

4 The restrictions of maximum load capacity for the types of non cycle specific luggage carrier

Manufacturers of non cycle specific luggage carrier shall take into consideration any restrictions laid down in Table 1.

For cycle specific luggage carrier or permanently attached luggage carrier, the manufacturer is responsible for determining the maximum load capacity.

In Table 1, the maximum limit (if any) for the load capacity is indicated for each type of non cycle specific luggage carrier that falls within the scope of this International Standard. The applicable requirements and test methods differ according to the type and maximum load capacity.

Table 1 — The restrictions of maximum load capacity for the types of non cycle specific luggage carrier

Type of luggage carrier	Rear			Front		
	Normal rear luggage carrier	Beam carriers		Above wheel front luggage carrier	Low-load front luggage carrier	Front-mounted container
		Seat post-mounted beam luggage carrier	Frame-mounted beam luggage carrier			
Restriction of maximum load capacity, kg	no limit	10	27	10	18	10
NOTE 1 For transporting heavier load, the restriction of maximum load capacity specified in Table 1 can be exceeded provided that the bicycle sustains such load.						
NOTE 2 Maximum load capacity does not include the battery weight if so equipped.						

NOTE Examples of luggage carrier configurations are shown in Annex D.

5 Requirements and test methods

5.1 General

The fatigue tests shall be done on the same sample and fasteners. Others tests can be conducted on a new test sample, but if only one test sample is available, it is permissible to conduct all of the tests on the same sample with the sequence of testing in the order: dynamic load tests, static tests.

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.

ISO/DIS 11243:2021(E)

118 If the luggage carrier is made of plastics or metal and plastics, it shall be submitted to the tests in 5.13
119 after being tested according to 5.9, 5.10, 5.11 and 5.12.

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

121 The luggage carrier shall be tested using the connecting interface position(s) and type(s) according to the
122 luggage carrier manufacturer's specifications.

123 When more than one mounting configuration is used the conditions that provide the luggage carrier with
124 the most and least movement shall be tested.

125 The luggage carrier shall be tested with all accessories provided (e.g. lock, pumps, etc.).

126 For luggage carrier intended to be fitted on an EPAC and designed to include a battery, the test shall be
127 performed with the maximum battery load [see 7 q)] in addition to the mass defined in Clause 4.

128 For permanently attached luggage carrier, all clauses apply except 5.8 and 5.13.

129 For maximum load capacity under 27 kg, the mark shall warn the user that the product is not suitable for
130 the transportation of a child seat. See Figure 11.

131 5.2 Tolerances

132 Unless stated otherwise, accuracy tolerances based on the nominal values shall be as follows.

133 Forces and torques 0/+5 %

134 Masses and weights ± 1 %

135 Dimensions ± 1 mm

136 Angles $\pm 1^\circ$

137 Time duration ± 5 s

138 Temperatures ± 2 °C

139 Pressures ± 5 %

140 Frequencies and linear stroke ± 5 %

141 5.3 Crack detection methods

142 Standardized methods may be used to emphasize the presence of cracks where visible cracks are
143 specified as criteria of failure in tests specified in this International Standard.

144 NOTE For example, suitable dye-penetrant methods are specified in ISO 3452-1, ISO 3452-2, ISO 3452-3 and
145 ISO 3452-4. ^{[2][3][4][5]}

146 5.4 Sharp edges

147 Exposed edges that could come into contact with the rider's or a transported person's hands, legs, etc.,
148 during normal riding or normal handling and normal maintenance shall be neither sharp nor designed
149 such that injuries can arise when the bicycle is used correctly. Spring ends shall be rounded or fitted with
150 protective caps.

151 5.5 Security of safety-related fasteners

152 5.5.1 Security of screws

153 Any screws used in the internal assembly of the luggage carrier shall be provided with suitable locking
154 devices, for example, lock-washers, lock-nuts or stiff nuts.

5.5.2 Minimum breaking torque

The minimum breaking torque of screws for the fastening of the luggage carrier to the cycle shall be at least 20 % greater than the manufacturer's recommended tightening torque.

NOTE For example, mechanical and physical properties of bolts are specified in ISO 898-1.^[1]

5.6 Minimum requirements for rear luggage carriers to which a child seat could be attached

Rear luggage carriers to which a child seat could be attached shall have a luggage carrier platform width of 175 mm maximum except for luggage carriers using a manufacturer-specific child seat mounting system. And the maximum load capacity of the rear luggage carrier shall be at least 27 kg.

Note Some child seats may have other additional attaching requirements.

5.7 Protrusions

This requirement is intended to address the hazards associated with the users of bicycles falling on projections or rigid components on a bicycle, possibly causing internal injury or skin puncture.

A screw thread that is an exposed protrusion shall be limited to a protrusion length of one major diameter of the screw beyond the internally threaded mating part.

5.8 Rear luggage carriers — Provision for lighting

The rear aspect of any rear luggage carrier not equipped with an integral rear lamp and reflector can be equipped with a bracket or brackets, either as an integral part or separate accessory (or accessories) to allow the fitting of a rear lamp and reflector.

When this requirement is satisfied by the provision of separate accessories, these accessories should be included when the luggage carrier is sold.

5.9 Dynamic load tests

5.9.1 Requirement

When tested by the methods described in 5.9.2, 5.9.3, 5.9.4 and 5.9.5, there shall be no fractures or visible cracks in any part of the luggage carrier and the specifically designed mounting points of the luggage carrier.

5.9.2 General loading method

The mounting method for the dynamic load test of cycle specific luggage carriers and non cycle specific luggage carriers differ. The mounting requirement are given in Annex A.

Attach a mass equal to the maximum load capacity stated by the manufacturer.

The specified weight (maximum load capacity given by the manufacturer) shall be applied in the middle of the platform = $L / 2$ and $W / 2$ this is illustrated in Figure 1. Tolerance ± 5 mm on the position of the weight. The clamping shall not deform the tube or the platform:

- For luggage carriers with a platform, a weight or weights shall be evenly distributed on more than 70 % area of the top surface of the luggage carrier platform;
- The centre of mass of this weight shall coincide with this position and also lie within $h = 40$ mm of the centreline of the top of the platform;
- Side bags can be filled with the balls of which $40 \text{ mm} \pm 0,5 \text{ mm}$ diameter and $24 \text{ g} \pm 1 \text{ g}$ weight (example squash balls) until reaching the load capacity, other dimension and weight can be used to obtain a good matching between weight and volume. The weight shall be evenly distributed;