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Bicycles — Luggage carriers and stands

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by The Japan Bicycle Promotion Institute (JBPI)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14.

Consequently JIS D 9453:2007 is replaced with this Standard.

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Bicycles — Luggage carriers and stands

Introduction

This Japanese Industrial Standard has been prepared based on the first edition of ISO 11243 published in 1994 by modifying some of its technical contents to correspond to the current situation in Japanese market.

The portions given continuous sidelines or dotted underlines are the matters in which the contents of the original International Standard have been modified. A list of modifications with explanations is given in Annex JA.

1 Scope

This Standard specifies luggage carriers (hereafter referred to as “carriers”) and stands mainly used for bicycles for general use, bicycles for young children and motor assisted cycles as specified in JIS D 9111.

NOTE : The International Standard corresponding to this Standard and the symbol which denotes the degree of correspondence are as follows :

ISO 11243 : 1994 *Cycles — Luggage carriers for bicycles — Concepts, classification and testing* (MOD)

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and JIS are IDT (identical), MOD (modified), and NEQ (not equivalent) according to ISO/IEC Guide 21-1.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS B 0205-1 ISO general purpose metric screw threads — Part 1 : Basic profile

JIS B 0205-2 ISO general purpose metric screw threads — Part 2 : General plan

JIS B 0205-3 ISO general purpose metric screw threads — Part 3 : Selected sizes for screws, bolts and nuts

JIS B 0205-4 ISO general purpose metric screw threads — Part 4 : Basic dimensions

JIS B 0209-1 ISO general purpose metric screw threads — Tolerances — Part 1 : Principles and basic data

JIS B 0209-2 *ISO general purpose metric screw threads — Tolerances — Part 2 : Limits of sizes for general purpose external and internal screw threads — Medium quality*

JIS B 0209-3 *ISO general purpose metric screw threads — Tolerances — Part 3 : Deviations for constructional screw threads*

JIS B 1501 *Rolling bearings — Balls*

JIS D 0202 *General rules of coating films for automobile parts*

JIS D 9101 *Cycles — Terminology*

JIS D 9111 *Cycles — Classification and essential characteristics*

JIS H 8610 *Electroplated coatings of zinc on iron or steel*

JIS H 8617 *Electroplated coatings of nickel and chromium*

3 Terms and definitions

For the purpose of this Standard, the terms and definitions given in JIS D 9101 and the following apply.

3.1 carrier

a device mounted above the rear wheel of a bicycle for loading luggage

Some devices are designed for carrying young children in child-seats.

3.2 carrier platform

flat part of the carrier upon which luggage may be loaded or fixed

If the carrier is equipped with more than one such area, only the uppermost is considered.

3.3 length of carrier L

maximum overall length of the carrier measured between the front and rear extremities, including means of attachment to the bicycle measured up to the attachment point, but excluding accessories such as reflectors

3.4 full stand

a device to maintain a bicycle in the upright position by a stand which supports the bicycle from both sides of the wheel so that the bicycle does not fall (see figure 5)

3.5 single prop stand

a device which is a stand against which a bicycle can be propped so that it does not fall (see figure 6)

4 Names of parts

Names of principal parts of carriers and stands shall be as shown in figure 4 to figure 6.

5 Classification of carriers

Carriers are classified into load classes as shown in table 1.

Table 1 Load classes of carriers

Load class	Description (maximum loading mass and attachment of child-seat)
Class 10	Loading carriers of maximum loading mass up to 10 kg. Not designed for attachment of child-seat.
Class 18	Loading carriers of maximum loading mass up to 18 kg. Not designed for attachment of child-seat.
Class 25	Loading carriers of maximum loading mass up to 25 kg. When attaching a child-seat, the total of mass of the child-seat and the maximum applicable body weight designated by the child-seat should not exceed 25 kg.
Class 27	Loading carriers of maximum loading mass up to 27 kg. When attaching a child-seat, the total of mass of the child seat and the maximum applicable body weight designated by the child-seat should not exceed 27 kg.
Class S	Loading carriers of maximum loading mass 27 kg or over, which is specified by the manufacturer of the carrier. When attaching a child-seat, the total of mass of the child-seat and the maximum applicable body weight designated by the child-seat should not exceed the specified value.

6 Strength

6.1 Strength of carrier

6.1.1 Temperature resistance

The temperature resistance shall be as follows.

- General** The temperature resistance shall apply to carriers of synthetic resin or those that are partially synthetic resin.
- High temperature resistance** For the high temperature resistance, when the test is performed in accordance with 12.1.1 b), there shall be no damage or distortion which affects the function or safety of the carrier.
- Low temperature resistance** For the low temperature resistance, when the test is performed in accordance with 12.1.1 c), there shall be no damage or distortion which affects the function or safety of the carrier.
- Low temperature impact resistance** For the low temperature impact resistance, when the test is performed in accordance with 12.1.1 d), there shall be no damage

or distortion which affects the function or safety of the carrier.

6.1.2 Static load strength

The static load strength shall be as follows.

- a) **Vertical** For the static load strength in the vertical direction, when the test is performed in accordance with 12.1.2 a), the permanent distortion of the carrier shall not exceed 5 mm.
- b) **Lateral** For the static load strength in the lateral direction, when the test is performed in accordance with 12.1.2 b), the deflection of the carrier shall not exceed 15 mm. Furthermore, the permanent distortion after the removal of force shall not exceed 5 mm.

6.1.3 Dynamic load strength

The dynamic load strength shall be as follows.

- a) **Vertical** For the dynamic load strength in the vertical direction, when the test is performed in accordance with 12.1.3 a), there shall be no faults such as excessive fractures and cracks on any part of the carrier.
- b) **Lateral** For the dynamic load strength in the lateral direction, when the test is performed in accordance with 12.1.3 b), there shall be no faults such as excessive fractures and cracks on any part of the carrier.

6.2 Strength of stand

6.2.1 Repeating operation fatigue

For the repeating operation fatigue, when the test is performed 5 000 times in accordance with 12.2.1, there shall be no excessive play, incomplete actuation, fracture or the like on any part of stand.

6.2.2 Static load strength of full stand

For the static load strength of full stand, when the test is performed in accordance with 12.2.2, the stand lock shall not be released. The permanent distortion of the stand shall not exceed 5 mm.

6.2.3 Static load strength of single prop stand

For the static load strength of single prop stand, when the test is performed in accordance with 12.2.3, the stand lock shall not be released except for those without the stand lock. Furthermore, the permanent distortion of the stand shall not exceed 10 mm.

7 Construction and function

The construction and function of carriers and stands shall be as follows.

- a) Every joint, fixing and assembly shall be secure.
- b) When a stand is mounted on a bicycle, it shall allow the user to operate easily.