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Mountain-bicycles – Safety requirements and test methods English version of DIN EN 14766:2006-09

Geländefahrräder (Mountainbikes) –
Sicherheitstechnische Anforderungen und Prüfverfahren
Englische Fassung DIN EN 14766:2006-09

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Start of validity

This standard is valid from 01 September 2006.

National foreword

This standard includes safety requirements within the meaning of the *Geräte- und Produktsicherheitsgesetz* (German Equipment and Product Safety Law).

This standard has been prepared by CEN/TC 333 "Cycles" (Secretariat: Italy).

The responsible German body involved in its preparation was the *Normenausschuss Sport- und Freizeitgerät* (Sports Equipment Standards Committee), Technical Committee 6.1 *Fahrräder für allgemeine und sportliche Benutzung SpA ISO/TC 149 und SC 1; CEN/TC 333, WG 1, WG 2 und WG 3.*

Mountain-bicycles as specified in this standard fall within the scope of the *Geräte- und Produktsicherheitsgesetz.* Once compliance with the safety requirements specified therein has been verified by an accredited test house designated by the *Bundesminister für Wirtschaft und Arbeit* (German Federal Minister of Labour and Economics), mountain-bicycles may be marked with the symbol GS (= *geprüfte Sicherheit*, safety tested).

The DIN Standards corresponding to the International Standards referred to in the EN are as follows:

ISO 1101	DIN ISO 1101
ISO 7636	DIN ISO 7636

This standard incorporates corrections to DIN EN 14766:2006-02. These are indicated by a vertical line along the margin.

Amendments

The following corrections have been made to the German version of DIN EN 14766:2006-02:

a) The first sentence in clause 1 "Scope" shall read: "This European Standard specifies safety and performance requirements for the design, assembly, and testing of bicycles and sub-assemblies intended for off-road, rough-terrain use, and lays down guidelines for instructions on the use and care of such bicycles."

b) In subclause 4.7.1, the handlebar shall have an overall width between "350 mm and 1 000 mm" instead of 300 mm and 1 000 mm.

c) In subclause 4.8.2, the headline shall read: "Frame and front fork assembly – impact test (falling mass)".

d) In subclause 4.9.7.3.2, the last sentence shall read: "Apply repeated, horizontal, dynamic forces of 600 N rearward to the end of the torque-arm parallel to the plane of the wheel (as shown in Figure 37) for 12 000 test cycles with a test frequency not exceeding 25 Hz."

e) In subclause 4.10.4.1, the first paragraph shall read: "Wheel retention safety is related to the combination of wheel, retention device, and drop-out design."

The following corrections have been made to the German and English version of DIN EN 14766:2006-02:

f) In subclause 4.11.3, the information given in brackets shall read: "(see also clause 5 q) and 6.1)".

g) In subclause 4.18.1, the information given in brackets shall read: "(see clause 5 g)".

Previous editions

DIN EN 14766:2006-02

National Annex NA
(informative)

NA.1 Brakes

Much of the experience gained drawing up the national standard DIN 79100 could be used during the meetings of CEN/TC 333 "Cycles". After a long and heated discussion regarding requirements and test methods for braking systems, a compromise was made, with the result that two methods of testing braking performance are specified in this European Standard.

These two methods are the machine test method – which has been successfully used in Germany for many years – and the track test method, which involves testing on a street surface ("track"). This makes it possible for tests to be carried out in countries in which test machines are not available.

Brake testing in Germany is almost always carried out using a machine; the following table makes it possible to convert braking forces into braking distances without having to use a constant. The minimum retardation values correspond to the braking distances specified in the European Standard. The measured braking force is to be converted to retardation values using the combined mass specified by the manufacturer.

Table NA.1 — Minimum retardation values for the machine test method of testing braking systems

Conditions	Brake in use	Min. retardation value (m/s^2)
Dry	Front only	4,2
	Rear only	2,8
Wet	Front only	2,2
	Rear only	1,4

During the inquiry stage, DIN Technical Committee NA 112-06-01 brought attention to the following issue several times: When measuring or calculating brake retardation values for bicycles for children and juveniles which are covered by this standard because they have a possible saddle height greater than 635 mm, the specified combined mass of 100 kg can be problematic. Brakes manufactured to this requirement can be too effective, particularly for children and juveniles, and can cause serious overbraking, for example of the front wheel.