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BSI Standards Publication

Cycles - Electrically power assisted cycles - EPAC Bicycles

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National foreword

This British Standard is the UK implementation of EN 15194:2017. It supersedes BS EN 15194:2009+A1:2011, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee GME/25, Cycles.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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English Version

Cycles - Electrically power assisted cycles - EPAC Bicycles

Cycles - Cycles à assistance électrique - Bicyclettes
EPACFahrräder - Elektromotorisch unterstützte Räder -
EPAC

This European Standard was approved by CEN on 28 May 2017.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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European foreword

This document (EN 15194:2017) 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of an identical text or by endorsement, at the latest by April 2018, and conflicting national standards shall be withdrawn at the latest by April 2019.

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 15194:2009+A1:2011.

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(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

Compared to the previous edition, this standard has been revised to align it to the essential applicable requirements of EU Directive 2006/42/EC (Machinery Directive).

This standard also includes all mechanic requirements applicable to the EPACs and is therefore a stand-alone document.

According to the CEN-CENELEC Internal Regulations, the national standards organizations 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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Introduction

This European Standard gives requirements for electrically power assisted cycles (EPAC).

This European Standard has been developed in response to demand throughout Europe. Its aim is to provide a standard for the assessment of electrically powered cycles of a type which are excluded from type approval by Regulation (EU) No 168/2013.

Due to the limitation of the voltage to 48 V d.c., there are no special requirements applicable to the EPAC in regard to protection against electrical hazards.

Following the completion of a risk analysis, the focus in this standard is on EPAC as bicycles for city and trekking. Folding bicycles are included.

This document is a type C standard as stated in EN ISO 12100. The machinery concerned and the extent to which hazards, hazardous situations and hazardous events covered are indicated in the scope of this document.

When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this type C standard take precedence over the provisions of the other standards, for machines that have been designed and built according to the provisions of this type C standard.

In real life situation an EPAC can fall over to the side causing the battery holder to break without damage to the battery case itself. While the standard contains a strength test for the battery an additional test is required for the situation described. This will be considered at the next revision. The battery holder needs to withstand this realistic and typical situation. Risk assessment carried out by the manufacturer should identify suitable measures to deal with this situation until it can be dealt with in the standard.

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1 Scope

This European Standard applies to EPAC bicycles for private and commercial use with exception of EPAC intended for hire from unattended station.

This European Standard is intended to cover all common significant hazards, hazardous situations and events (see Clause 4) of electrically power assisted bicycles, when used as intended and under condition of misuse that are reasonably foreseeable by the manufacturer.

This European Standard is intended to cover electrically power assisted bicycles of a type which have a maximum continuous rated power of 0,25 kW, of which the output is progressively reduced and finally cut off as the EPAC reaches a speed of 25 km/h, or sooner, if the cyclist stops pedalling.

This European Standard specifies requirements and test methods for engine power management systems, electrical circuits including the charging system for the design and assembly of electrically power assisted bicycles and sub-assemblies for systems having a rated voltage up to and including 48 V d.c. or integrated battery charger with a nominal 230 V a.c. input.

This European Standard specifies safety and safety related performance requirements for the design, assembly, and testing of EPAC bicycles and subassemblies intended for use on public roads, and lays down guidelines for instructions on the use and care of such bicycles.

This European Standard applies to EPAC bicycles that have a maximum saddle height of 635 mm or more and that are intended for use on public roads.

This European Standard is not applicable to EPACs which are manufactured before the date of its publication as EN.

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 22248:1992, *Packaging — Complete, filled transport packages — Vertical impact test by dropping (ISO 2248:1985)*

EN 55012:2007, *Vehicles, boats and internal combustion engines — Radio disturbance characteristics — Limits and methods of measurement for the protection of on-board receivers (CISPR 12:2007)*

EN 55016-1-1:2010, *Specification for radio disturbance and immunity measuring apparatus and methods — Part 1-1: Radio disturbance and immunity measuring apparatus — Measuring apparatus (CISPR 16-1-1:2010)*

EN 55025:2008, *Vehicles, boats and internal combustion engines — Radio disturbance characteristics — Limits and methods of measurement for the protection of on-board receivers (CISPR 25:2008)*

EN 60034-1:2010, *Rotating electrical machines — Part 1: Rating and performance (IEC 60034-1:2010, modified)*

EN 60068-2-75:2014, *Environmental testing — Part 2-75: Tests — Test Eh: Hammer tests (IEC 60068-2-75:2014)*

EN 60335-1:2012, *Household and similar electrical appliances — Safety — Part 1: General requirements (IEC 60335-1:2010, modified)*