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Cycles - Electrically power assisted cycles - EPAC  
Mountain bikes



## EESTI STANDARDI EESSÕNA

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ICS 43.120, 43.150

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EUROPEAN STANDARD

**EN 17404**

NORME EUROPÉENNE

EUROPÄISCHE NORM

May 2022

ICS 43.120; 43.150

English Version

## Cycles - Electrically power assisted cycles - EPAC Mountain bikes

Cycles - Cycles à assistance électrique - Bicyclettes tout terrain EPAC

Fahrräder - Elektromotorisch unterstützte Räder - EPAC Mountainbikes

This European Standard was approved by CEN on 27 March 2022.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

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## European foreword

This document (EN 17404:2022) 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of an identical text or by endorsement, at the latest by November 2022, and conflicting national standards shall be withdrawn at the latest by November 2022.

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.

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, Turkey and the United Kingdom.

## Introduction

This document gives requirements for EPAC Mountain bikes.

This document 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 document is on EPAC Mountain bikes. City and trekking EPACs are considered in EN 15194. This document is to be used in conjunction with EN 15194:2017.

This document supplements or modifies the corresponding clauses in EN 15194:2017, so as to convert it into for EPAC Mountain bikes. Where a particular subclause of EN 15194:2017 is not mentioned in this document, that subclause applies. When this document states “addition”, “modification” or “replacement”, the relevant text of EN 15194:2017 is to be adapted accordingly.

This document does not cover battery and vibration issues due to a work under development in TC 333, not ready and not consolidated yet as “state of the art”.

This document is a type C standard as stated in EN ISO 12100:2010. 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 Mountain bike 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 should 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.

## 1 Scope

For the purpose of this document the scope of EN 15194:2017 is applicable with the following addition.

This document specifies specific requirements applicable to EPAC Mountain bikes.

EPAC-MTB category 5 according to EN 17406:2020+A1:2021, Table 1 is not covered by this document.

## 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 15194:2017, *Cycles - Electrically power assisted cycles - EPAC Bicycles*

EN 60529:1991,<sup>1</sup> *Degrees of protection provided by enclosures (IP code) (IEC 60529:1989)*

EN ISO 4210-2:2015, *Cycles - Safety requirements for bicycles - Part 2: Requirements for city and trekking, young adult, mountain and racing bicycles (ISO 4210-2:2015)*

EN ISO 4210-5:2014, *Cycles - Safety requirements for bicycles - Part 5: Steering test methods (ISO 4210-5:2014, Corrected version 2015-02-01)*

EN ISO 4210-6:2015, *Cycles - Safety requirements for bicycles - Part 6: Frame and fork test methods (ISO 4210-6:2015)*

EN ISO 4210-8:2014, *Cycles - Safety requirements for bicycles - Part 8: Pedal and drive system test methods (ISO 4210-8:2014)*

EN ISO 4210-9:2014, *Cycles - Safety requirements for bicycles - Part 9: Saddles and seat-post test methods (ISO 4210-9:2014)*

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

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12100:2010 and the following apply. Not all definitions are applicable to EPACs.

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

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

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<sup>1</sup> As impacted by EN 60529:1991/A1:2000, EN 60529:1991/A2:2013, EN 60529:1991/corrigendum May 1993, EN 60529:1991/A2:2013/AC:2019-02 and EN 60529:1991/AC:2016-12.