

**Kaitserõivad mootorratturitele mehaaniliste löökide eest.  
Osa 2: Mootorratturi seljakaitse. Nõuded ja  
katsemeetodid**

**Motorcyclists' protective clothing against mechanical  
impact - Part 2: Motorcyclists' back protectors -  
Requirements and test methods**

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

|                                                                                                                     |                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| See Eesti standard EVS-EN 1621-2:2014 sisaldab Euroopa standardi EN 1621-2:2014 inglisekeelset teksti.              | This Estonian standard EVS-EN 1621-2:2014 consists of the English text of the European standard EN 1621-2:2014.                    |
| Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.                                                  | This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation. |
| Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 14.01.2014. | Date of Availability of the European standard is . 14.01.2014.                                                                     |
| Standard on kättesaadav Eesti Standardikeskusest.                                                                   | The standard is available from the Estonian Centre for Standardisation.                                                            |

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile [standardiosakond@evs.ee](mailto:standardiosakond@evs.ee).

ICS 13.340.10

### Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:  
Aru 10, 10317 Tallinn, Eesti; [www.evs.ee](http://www.evs.ee); telefon 605 5050; e-post [info@evs.ee](mailto:info@evs.ee)

### The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:  
Aru 10, 10317 Tallinn, Estonia; [www.evs.ee](http://www.evs.ee); phone 605 5050; e-mail [info@evs.ee](mailto:info@evs.ee)

English Version

**Motorcyclists' protective clothing against mechanical impact -  
Part 2: Motorcyclists' back protectors - Requirements and test  
methods**

Vêtements de protection contre les chocs mécaniques pour  
motocyclistes - Partie 2 : Protecteurs dorsaux - Exigences  
et méthodes d'essai

Motorradfahrer-Schutzkleidung gegen mechanische  
Belastung - Teil 2: Rückenprotektoren - Anforderungen und  
Prüfverfahren

This European Standard was approved by CEN on 26 October 2013.

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.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

# Contents

Page

|                                                                                                                                   |    |
|-----------------------------------------------------------------------------------------------------------------------------------|----|
| Foreword.....                                                                                                                     | 3  |
| Introduction .....                                                                                                                | 4  |
| 1 Scope .....                                                                                                                     | 5  |
| 2 Normative references .....                                                                                                      | 5  |
| 3 Terms and definitions .....                                                                                                     | 5  |
| 4 Requirements .....                                                                                                              | 6  |
| 4.1 General.....                                                                                                                  | 6  |
| 4.2 Innocuousness.....                                                                                                            | 6  |
| 4.3 Minimum dimensions of zones of protection .....                                                                               | 6  |
| 4.4 Impact attenuation .....                                                                                                      | 7  |
| 4.5 Ergonomic requirements .....                                                                                                  | 8  |
| 4.6 Sizing and size marking .....                                                                                                 | 8  |
| 5 Test methods and equipment.....                                                                                                 | 8  |
| 5.1 Impact attenuation .....                                                                                                      | 8  |
| 5.1.1 Equipment .....                                                                                                             | 8  |
| 5.1.2 Templates .....                                                                                                             | 9  |
| 5.1.3 Number of samples.....                                                                                                      | 10 |
| 5.1.4 Number of tests.....                                                                                                        | 10 |
| 5.1.5 Procedure .....                                                                                                             | 10 |
| 5.1.6 Tests.....                                                                                                                  | 12 |
| 5.2 Ergonomic assessment .....                                                                                                    | 13 |
| 5.2.1 General.....                                                                                                                | 13 |
| 5.2.2 Tests.....                                                                                                                  | 13 |
| 5.3 Expression of test results .....                                                                                              | 14 |
| 5.4 Test report .....                                                                                                             | 14 |
| 6 Marking .....                                                                                                                   | 14 |
| 7 Information supplied by the manufacturer .....                                                                                  | 15 |
| Annex A (informative) Method of metrological confirmation.....                                                                    | 18 |
| A.1 Method of metrological confirmation .....                                                                                     | 18 |
| A.2 Reference material.....                                                                                                       | 18 |
| A.3 Preparation of the test sample .....                                                                                          | 18 |
| A.4 Procedure .....                                                                                                               | 18 |
| A.5 Calculation.....                                                                                                              | 18 |
| A.6 Precision.....                                                                                                                | 19 |
| Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 89/686/EEC..... | 20 |
| Bibliography .....                                                                                                                | 21 |

## Foreword

This document (EN 1621-2:2014) has been prepared by Technical Committee CEN/TC 162 "Protective clothing including hand and arm protection and lifejackets", the secretariat of which is held by DIN.

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 July 2014, and conflicting national standards shall be withdrawn at the latest by July 2014.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 1621-2:2003.

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 89/686/EEC, see informative Annex ZA, which is an integral part of this document.

The main technical changes with respect to the 2003 edition are listed below:

- a new shape of protector has been added, the central back protector;
- requirements concerning innocuousness have been added;
- requirements concerning the wet impact test (mandatory) and the high and low temperature impact tests (optional) have been added;
- the waist to shoulder length shall be specified as a range.

EN 1621 consists of the following parts, under the general title *Motorcyclists' protective clothing against mechanical impact*:

- *Part 1: Motorcyclists' limb joint impact protectors — Requirements and test methods*
- *Part 2: Motorcyclists' back protectors — Requirements and test methods* (the present document)
- *Part 3: Requirements and test methods for chest protectors*<sup>1)</sup>
- *Part 4: Motorcyclists' inflatable protectors — Requirements and test methods*

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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

---

1) Under development.

## Introduction

Motorcyclist's back protectors are devices worn within or on top of other protective clothing, covering at least a portion of the back as corresponding to one of the three shapes of protectors described in the standard.

The performance requirements have been chosen as a best practical compromise between protection, comfort, and ergonomic requirements. Protectors that are too stiff or heavy will not be worn. The test methods are designed to provide information on protection against impacts against edges such as kerb stones. The force levels in the tests do not compare directly with the forces to which riders are exposed in accidents, but experiences have shown that products meeting the requirements of this European Standard reduce the incidence and severity of injuries.

This standard accommodates three different typologies of back protector, which are offered to encourage the adoption of certified protection within the different disciplines of motorcycling and the type of rider. These are namely full back, central back and lower back (lumbar) protector, the definition of which are provided in Clause 3.

Two performance levels are specified for motorcyclist's back protectors against impacts. These are level 1 for protectors designed to give protection whilst having low ergonomic penalties associated with its use and level 2 for protectors providing an increased protection with respect to level 1. There may be, however, weight and restriction penalties associated with level 2 protection.

## 1 Scope

This European Standard specifies the minimum coverage to be provided by motorcyclists' back protectors worn by riders in normal traffic situations. The standard contains the requirements for the performance of the protectors under impact and details of the test methods. Requirements for sizing, ergonomic requirements, and requirements for innocuousness, labelling and the provision of information are included.

## 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 1621-1, *Motorcyclists' protective clothing against mechanical impact - Part 1: Motorcyclists' limb joint impact protectors - Requirements and test methods*

ISO 6487, *Road vehicles - Measurement techniques in impact tests - Instrumentation*

## 3 Terms and definitions

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

### 3.1

#### **full back protector**

FB

protective device worn on the back intended to reduce the severity of injuries caused by impacts to the central back and scapula area

### 3.2

#### **central back protector**

CB

protective device worn on the back intended to reduce the severity of injuries caused by impacts to central back area

### 3.3

#### **lower back protector**

lumbar protector

LB

protective device worn on the back intended to reduce the severity of injuries caused by impacts to the lumbar region

### 3.4

#### **zone of protection**

specific area of the protective device that is intended to provide protection

### 3.5

#### **waist to shoulder length**

length measured on the back from the waist line to the junction of the shoulder to the neck at the highest point (see Figure 1)

Note 1 to entry: The sizing system of back protectors is based on the user's waist to shoulder length, as no consistent relationship to the body height exists. The dimension is intended to be measured on the body with a tape measure.