
EN 13594:2015

NBN EN 13594:2015

Belgian Standard

Protective gloves for motorcycle riders - Requirements and test methods

Valid from 23-10-2015

Replaces NBN EN 13594:2002

ICS: 13.340.40



Bureau for Standardisation
Rue Joseph II 40 PO box 6
1000 Brussels

T. +32 2 738 01 11
F. +32 2 733 42 64
info@nbn.be

BTW BE0880.857.592
IBAN BE69 6790 0009 5178
BIC Code PCHQBEBB

www.nbn.be

English Version

Protective gloves for motorcycle riders - Requirements and test methods

Gants de protection pour motocyclistes - Exigences et méthodes d'essai

Schutzhandschuhe für Motorradfahrer - Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 3 July 2015.

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
European foreword	4
Introduction	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	6
4 Requirements	6
4.1 General.....	6
4.2 Innocuousness.....	7
4.3 Hard inclusions.....	7
4.4 Ergonomic requirements	7
4.5 Sizing and cuff length	7
4.6 Restraint	7
4.7 Tear strength.....	7
4.8 Seam strength.....	8
4.9 Cut resistance	8
4.10 Impact abrasion resistance	8
4.11 impact protection of knuckles.....	8
5 Test Equipment.....	9
5.1 General.....	9
5.2 Glove restraint testing wrist	9
5.3 Impact test apparatus.....	10
6 Test Procedures.....	10
6.1 Test samples and test pieces.....	10
6.2 Conditioning glove samples and test pieces.....	10
6.3 Hard inclusions.....	10
6.4 Sizing, length examination of cuff, position of knuckle protection.....	10
6.5 Restraint	10
6.6 Tear strength.....	11
6.7 Seam strength.....	11
6.8 Impact abrasion resistance	11
6.9 Determination of Impact attenuation	11
7 Marking	12
8 Information supplied by the manufacturer	12
9 Pictogram	13
Annex A (normative) Ergonomic and size testing	15
A.1 Principle.....	15
A.2 Procedure for ergonomic evaluation	15
A.3 Test report	15
Annex B (normative) Test method for determination of seam strength.....	16
B.1 Scope	16
B.2 Preparation of Test Pieces.....	16
B.3 Apparatus	18

B.4	Procedure	18
B.5	Calculation of results	20
B.6	Test report	20
Annex C	(normative) Test method for determination of impact abrasion resistance	21
C.1	Scope	21
C.2	Samples	21
C.3	Test pieces	21
C.4	Area to be tested	21
C.5	Marking point “C” as the centre of the area to be tested	22
C.6	Cutting the test piece out of the glove sample.....	22
C.7	Conditioning	23
C.8	Test apparatus	23
C.9	Test pieces	25
C.10	Testing procedure	26
C.11	Test report.....	27
Annex ZA	(informative) Relationship between this European Standard and the Essential Requirements of EU Directive 89/686/EEC	31

European foreword

This document (EN 13594:2015) 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 February 2016 and conflicting national standards shall be withdrawn at the latest by August 2017.

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 13594:2002.

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.

The main technical changes with respect to EN 13594:2002 are listed below:

- a) the restriction to professional motorcycle riders has been removed;
- b) the definition of professional motorcycle rider has been deleted;
- c) a second performance level has been introduced;
- d) definitions concerning knuckle protection, fourchettes and wrist line have been added;
- e) the artificial wrist for restraint test has been modified;
- f) requirements on dye fastness have been removed;
- g) former Annex A on motorcyclists’ injuries and selection of protective gloves has been deleted.

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.

Introduction

Motorcyclists' gloves are intended to give protection against ambient conditions without unduly reducing the users' dexterity in operating the motorcycle's controls and switches. In addition, the gloves are intended to give mechanical protection to the hands and wrists in accidents. The particular hazards common to motorcycle accidents are impacts with the motorcycle, conflicting vehicles, road furniture, and/or the road surface.

The selection of the gloves by a rider depends on a variety of factors, such as the motorcycling discipline, the weather conditions, the frequency of putting on and taking off the gloves, and the duration that the gloves are typically worn. In order to encourage the adoption of certified protection by the highest possible number of users, two performance levels are specified for gloves. These are level 1 for gloves designed to give protection while having low ergonomic penalties associated with their use and level 2 for gloves providing 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 applies to protective gloves for motorcycle on-road use. It specifies the requirements for sizing, ergonomics, innocuousness, mechanical properties, impact protection, marking and information for users. It also describes the appropriate test methods.

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 388, *Protective gloves against mechanical risks*

EN 420, *Protective gloves - General requirements and test methods*

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

ISO 6344-2, *Coated abrasives - Grain size analysis - Part 2: Determination of grain size distribution of macrogrits P12 to P220*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 388 and EN 420 and the following apply.

3.1
zone of knuckle protection
zone of the glove that is intended to provide additional specific protection to the knuckles; this zone is subject to specific testing for impact resistance

Note 1 to entry: The knuckles are the 4 projections of the metacarpo-phalangeal joints on the back of the hand.

3.2
protective layer
any material (i.e. not necessarily the outer layer) in a single piece or multiple pieces and/or layers that, joined together by seams or other means, make up the continuous and mechanically strong structure of the glove from the fingertip to the top of the cuff

3.3
fourchettes
part of the gloves connecting front and back side in the interspaces between the four fingers excluding the thumb

3.4
wrist line
line coinciding with the first crease which occurs closest to the base of the palm

4 Requirements

4.1 General

All gloves shall meet the requirements of 4.2 to 4.4.

A level 1 glove shall meet all level 1 requirements of 4.5 to 4.10 and, where relevant, of 4.11.