

Nederlandse norm

# NEN-EN 13158

(en)

Protective clothing - Protective jackets, body and shoulder protectors for equestrian use: For horse riders and those working with horses, and for horse drivers - Requirements and test methods

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 Preview

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<u>vermelde norm</u>	<u>Nederlandse norm</u>	<u>titel</u>
EN 340	NEN-EN 340	Beschermende kleding - Algemene eisen

Voorbeeld  
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English Version

**Protective clothing - Protective jackets, body and shoulder protectors for equestrian use: For horse riders and those working with horses, and for horse drivers - Requirements and test methods**

Vêtements de protection - Vestes, gilets de protection et protège-épaules pour sports équestres: Pour cavaliers, pour personnes travaillant avec des chevaux et pour meneurs d'attelage - Exigences et méthodes d'essai

Schutzkleidung - Schutzjacken, Körper- und Schulterschützer für den Reitsport: Für Reiter, Personen, die mit Pferden arbeiten und für Gespannfahrer - Anforderungen und Prüfverfahren

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## Foreword

This document (EN 13158:2009) 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of an identical text or by endorsement, at the latest by September 2009, and conflicting national standards shall be withdrawn at the latest by September 2009.

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 13158:2000.

Annex C provides details of significant technical changes between this European Standard and the previous edition: EN 13158:2000.

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.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.



## Introduction

Protective jackets, body protectors and shoulder protectors are worn by horse riders, those working with horses, horse drivers and passengers in horse driven vehicles, so that they will have some protection from impacts consequent on falling from horses or vehicles. Such impacts may be against soft or hard ground, or objects such as trees, vehicles, posts or rails. Fallen riders, drivers and passengers, and those working with horses will also have some protection from injury from being kicked, trodden on, or crushed by a horse or vehicle.

Falls from horses and vehicles involve high levels of energy dissipation. Injuries cannot be entirely prevented by material in protective clothing but should be reduced in severity. Injuries will not be prevented by the protective clothing in accidents involving severe torsion, flexion, extension or crushing of the body. Further information is given in Annex A.

It has been assumed in the drafting of this Standard that the execution of its provisions is entrusted to appropriately qualified and experienced people, for whose guidance it has been prepared. The apparatus described should only be used by competent persons and requires safeguards to prevent, as far as is reasonably practicable, injury to the operator and other persons.

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Preview

## 1 Scope

This Standard specifies the requirements and test methods for the coverage, sizing, adaptability and adjustability, restraint, ergonomics, construction, innocuousness, and performance under impact to be provided by protective jackets, body and shoulder protectors to be worn by children, youths and adults of either sex while riding horses, working with horses, driving horses or being a passenger in a horse driven vehicle. Such protectors are intended to provide some protection against impacts due to falls from horses and vehicles, and impacts while on the ground due to a fall, or while working with a horse. Impacts may be against the ground or objects such as trees or vehicles, or impacts may be due to kicks, being trodden on or being crushed by a horse. The protectors covered by this Standard are not intended to provide complete protection against injuries in accidents involving severe torsion, flexion, extension or crushing of the body. Requirements for marking and the provision of information are given.

## 2 Normative references

The following referenced documents are indispensable for the application 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 340, *Protective clothing – General requirements*

## 3 Terms and definitions

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

### 3.1 Horse rider's protective clothing

#### 3.1.1 protective jacket

a short sleeved or long sleeved item of clothing incorporating materials meeting the requirements for body protectors and shoulder protectors covering the defined areas of the torso, lower back and shoulders and designed to reduce injury from blunt impacts, falls and kicks

#### 3.1.2 body protector

sleeveless item of clothing covering defined areas of the torso and lower back and consisting of one or more layers of material and designed to reduce injury from blunt impacts, falls and kicks

#### 3.1.3 shoulder protector

a device considered to be an item of clothing that covers the lateral aspect of the shoulder and defined areas of the front, back and top of the shoulder and is designed to reduce injury from blunt impacts and falls on the shoulder

NOTE Shoulder protectors may be inserted in protective jackets, attached to body protectors or be part of a separate garment such as a shirt or jersey.

### 3.2 Body dimensions

#### 3.2.1 chest girth

the maximum horizontal girth measured during normal breathing with the subject standing upright and the tape-measure passed over the scapulae under the armpits and across the chest

**3.2.2****bust girth**

the maximum horizontal girth measured during normal breathing with the subject, wearing normal underclothing, and standing upright and the tape-measure passed over the scapulae under the armpits and across the breasts

**3.2.3****under bust girth**

the maximum horizontal girth measured during normal breathing with the subject, wearing normal underclothing, and standing upright and the tape-measure passing immediately below the breasts

**3.2.4****waist girth**

the maximum horizontal girth measured during normal breathing with the subject standing upright and the tape-measure passed around the body in the plane of the waist, 50 mm above the supra-cristal plane which is at the level of the highest points of the iliac crests

NOTE The dimension of 50 mm refers to a subject of 1 780 mm tall and should be scaled *pro rata* with the height of the actual subject.

**3.2.5****waist to waist over-the-shoulder length**

The maximum length measured from the plane of the waist on the anterior of the body, as defined in 3.2.4, over the shoulder to the plane of the waist on the posterior of the body

NOTE The tape-measure crosses the shoulder at the mid point between the point of the shoulder and the junction of the shoulder to the neck. Anteriorly the tape measure passes over the chest (or bust) to a point 90 mm lateral to the midline of the body on the plane of the waist. Posteriorly the tape measure follows the shortest distance to a point 90 mm lateral to the midline of the body. The distances of 90 mm refer to a subject with a waist girth of 850 mm and should be scaled *pro rata* with the waist girth of the actual subject. Normal underclothing to be worn for the measurement.

**3.3 Horse drivers****3.3.1****horse driver**

person on a wheeled or skid-mounted vehicle controlling a horse or horses pulling the vehicle

**3.3.2****passenger**

person on or in a wheeled or skid mounted vehicle pulled by a horse or horses but not controlling the horse or horses

**3.4****performance levels of protective jackets, body protectors and shoulder protectors**

number that designates a particular category or range of performance by which the results of testing can be graded

NOTE The performance levels of the protective clothing are defined by the test performance criteria given in 4.6.

Level 1 products are subjected to the lowest test severity, and higher level products to more severe tests. Protective clothing designed to conform with Performance Level 1 is specifically designed for professional racing applications and such garments are required to be marked in accordance with Clause 6.

See Annex A for details of horse riders' accidents, injuries and the role of protective equipment. Performance levels are considered in particular in A.4.4 and A.4.5.

## 4 Requirements

### 4.1 Requirements for protectors for horse riders, those working with horses, and for horse drivers and passengers

The requirements in 4.2, 4.3, 4.4, 4.5, 4.6 and 4.7 apply to protectors for horse riders, for those working with horses, and for horse drivers and passengers with the exceptions that apply only to protectors for horse drivers and passengers given in 4.2.2.2 and 4.6.2.

### 4.2 Coverage to be provided by protective jackets, body protectors, and shoulder protectors, and the dimensions of protective material in the protectors

#### 4.2.1 General

Protective jackets, body protectors and shoulder protectors for horse riders, those working with horses and for horse drivers and passengers shall provide the coverage, and shall have the minimum and maximum dimensions of protective material given below, measured on the garments as described in 5.4 and 5.7.2. Protective jackets shall contain protective materials meeting the minimum and maximum dimension requirements for both body and shoulder protectors. Certain exceptions to these dimensions which are permitted for ergonomic reasons are given in 4.2.4.

NOTE See A.5 and A.6 for information on body coverage, fitting and sizing of protectors.

#### 4.2.2 Coverage

##### 4.2.2.1 Protectors for horse riders and those working with horses

When correctly worn a protective jacket, or a body protector for horse riders and those working with horses shall cover the following area of the body as shown in Figure 1. The numerical dimensions are for a user with an over-the-shoulder length of 1000 mm and shall be scaled *pro rata* for users with different over-the-shoulder lengths.

- a) The whole circumference of the torso.
- b) The bottom edge of the protector shall be not less than 25 mm below the rib cage anteriorly, and shall reach a level not more than 30 mm above the iliac crests of the pelvis at the side of the body. Posteriorly the bottom edge at the points the lines E and E' (see 4.2.3) intercept it, shall be not less than 50 mm below the level of the iliac crests.
- c) The top of the protective material on the back shall just reach the level of the seventh cervical vertebra (the prominent bone at the base of the neck).
- d) The top of the protective material on the chest shall reach to within 25 mm of the top of the sternum.
- e) The shoulder straps of a body protector or protective jacket shall cover the central 50 % of the clavicle (collar bone).

When correctly worn the protective material in the shoulder of a protective jacket or in shoulder protectors, shall cover the point of the shoulder and extend as follows:

- f) To cover the lateral 75 % of the clavicle.
- g) To cover the upper 25 % of the lateral aspect of the humerus.
- h) To cover the anterior of the shoulder joints (glenohumeral and acromioclavicular joints).
- i) To cover the posterior of the shoulder joints.

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