# SLOVENSKI STANDARD
# SIST EN 17092-5:2020

**01-maj-2020**

**Nadomešča:**
**SIST EN 13595-1:2002**
**SIST EN 13595-2:2003**
**SIST EN 13595-3:2002**
**SIST EN 13595-4:2002**

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**Varovalna obleka za voznike motornih koles - 5. del: Oblačila razreda B - Zahteve**

Protective garments for motorcycle riders - Part 5: Class B garments - Requirements

Motorradfahrerschutzkleidung - Teil 5: Kleidungsstücke der Klasse B - Anforderungen

Vêtements de protection pour les motocyclistes - Partie 5 : Vêtements de classe B - Exigences

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EUROPEAN STANDARD

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# EN 17092-5

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English Version

# Protective garments for motorcycle riders - Part 5: Class B garments - Requirements

Vêtements de protection pour les motocyclistes - Partie 5 : Vêtements de classe B - Exigences

Motorradfahrerschutzkleidung - Teil 5: Kleidungsstücke der Klasse B - Anforderungen

This European Standard was approved by CEN on 25 November 2019.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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## European foreword

This document (EN 17092-5:2020) 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of an identical text or by endorsement, at the latest by August 2020, and conflicting national standards shall be withdrawn at the latest by February 2023.

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, together with EN 17092-1:2020, EN 17092-2:2020, EN 17092-3:2020, 17092-4:2020 and EN 17092-6:2020, supersedes EN 13595-1:2002, EN 13595-2:2002, EN 13595-3:2002, EN 13595-4:2002.

This document has been prepared under a standardization request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of Regulation (EU) 2016/425.

For relationship with EU Regulation, see informative Annex ZA, which is an integral part of this document.

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This standard is part of a series of standards specifying test methods and requirements for motorcyclists’ protective garments. EN 17092 is comprised of multiple parts:

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— *Part 1: Test methods*

— *Part 2: Class AAA garments — Requirements*

— *Part 3: Class AA garments — Requirements*

— *Part 4: Class A garments — Requirements*

— *Part 5: Class B garments — Requirements*

— *Part 6: Class C garments — Requirements*

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.

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# Introduction

Motorcyclists' protective jackets, trousers, one-piece suits, two-piece suits, impact protector ensemble garments and other protective garments (hereinafter: "garments") are intended to give some amount of protection to riders without significantly reducing the ability of the rider to control the motorcycle. In addition, they are designed to provide adequate protection against the risks against which they are intended to protect, such as a fall from a motorcycle or another accident. Additional, particular, hazards encountered during a motorcycle accident may include: impact with and abrasion from the riding surface, impacts with the rider's motorcycle, conflicting vehicles, and other objects. Motorcyclists' protective garments are not intended to and cannot prevent traumas caused by high-energy impacts, traumas caused by severe forces of bending, twisting, torsion, flexion, or crushing as the result of striking an object, traumas caused by extreme abrasion, traumas caused by extreme movements, or traumas caused by massive penetrations. No protective garments can offer complete protection against all injuries. The principle of this standard is to define the basic performance requirements considered essential for motorcyclists' protective garments, in order for them to offer useful, classes of protection to riders according to the risks they may encounter, in the situations described above, during various riding activities and in various riding environments. This standard does not cover risks caused by extreme weather conditions. Where additional protective features are claimed (e.g. high visibility), the assessment of said protective features will be done with reference to the appropriate additional standards.

Motorcycling encompasses a diverse range of riders participating in a diverse range of activities. While all motorcyclists face similar fundamental risks when involved in an accident or a fall from a motorcycle, the type and degree of risk or hazard that a motorcyclist will encounter and the class of protection that they will need is closely linked to the riding activity, the riding environment, and the nature of the accident. In addition, because each motorcyclist participates in their chosen riding activity in different ways, within specific riding activities motorcyclists are also exposed to varying levels of risk and, therefore, require varying classes of protection. The elements that are a part of the fundamental design and functionality of a particular type of motorcyclists' protective garment, while appropriate and minimally constraining or limiting when used in a specific environment for a specific riding activity, may, on the other hand, present unacceptable constraints and liabilities in other riding environments and for other riding activities, such as increased penalties of weight, decreased range of motion and/or heat stress, and therefore, may not be acceptable for use by all riders during all motorcycle activities. This series of standards has been developed to encompass a large range of motorcycle disciplines and motorcyclists' activities, each with their own particular risks and appropriate classes of protection, to ensure that the best possible protection of an appropriate type is available for riders during their riding activities.

This standard is a part of a series of standards including also EN 17092-2, EN 17092-3, EN 17092-4 and EN 17092-6 which together describe the requirements for motorcyclists' garments, according to the various classes of protection offered and EN 17092-1, which specifies the test methods to assess the conformity of said garments to the requirements of the applicable product standard of the EN 17092 series.

Classes of motorcycle protective garments and the principle of risk category zoning

Classes of Protection

Garments designed to provide protection for motorcycle riders are tested according to the class of protection they afford. The performance requirements for the classes of protection are detailed by specific standards as follows:

**— EN 17092 - 2**— Class AAA garments

offer protection from impact and abrasion, using materials and construction that meet higher requirements than for garments covered by parts 3, and 4 of this standard series.

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Class AAA garments may have limiting ergonomic, weight and thermal penalties for some riding activities.

Some common examples are: one-piece or two-piece suits.

**— EN 17092-3** — Class AA garments.

offer protection from impact and abrasion, using materials and construction that meet higher requirements than for garments covered by part 4 of this standard series and lower requirements than for garments covered by part 2 of this standard series.

Class AA garments generally offer protection, against the risks of the greatest diversity of riding activities, and they may have lower ergonomic and weight penalties than Class AAA garments.

Some common examples are: garments designed to be worn by themselves or to be worn over other clothing.

— **EN 17092-4** — Class A garments.

Offer a minimum necessary degree of protection from impact and abrasion, using materials and construction that meet lower requirements than for parts 2 and 3 of this standard series.

Class A garments are expected to have the least ergonomic and weight penalties.

Some common examples are: garments, designed to be worn by themselves or to be worn over other clothing by riders in warm environments.

**— EN 17092-5** — Class B garments.

This class is for specialized garments, designed to provide the equivalent abrasion protection of Class A garments but without the inclusion of impact protectors.

Class B garments do not offer impact protection and it is recommended that they be worn with, at least, EN 1621-1 shoulder and elbow impact protectors, in the case of a jacket, or EN 1621-1 knee impact protectors, in the case of trousers, in order to offer complete minimum protection.

Some common examples are: modular garments suitable to be combined with other garments providing impact protection.

**— EN 17092-6** — Class C garments.

This class is for specialized non-shell, impact protector ensemble garments, designed only to hold one or more impact protectors in place, either as an undergarment or as an overgarment.

Class C garments are designed to provide impact protection for areas covered by the impact protector(s) only and they do not offer complete minimum abrasion protection and may not offer complete minimum impact protection.

Class C garments are designed to offer supplemental *impact* protection only. It is intended that Class C garments be worn in combination with Class AAA, AA, A or B garments to *enhance* the protection Class AAA, AA, A or B garments offer.

Some common examples are: modular garments suitable to be combined with other garments providing impact and abrasion protection or only abrasion protection.

This standard contains the requirements for Class B garments.

Risk category zoning

The performance requirements of the various aforementioned standards for motorcyclists' protective garments are, in turn, based on specific performance requirements for the garments' "risk category zones". Risk category zones are defined according to the likelihood that the area of the garment included in the zone will be subject to mechanical stress, in the event of an accident. There are three zones, as follows:

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— Zone 1 – the areas of motorcyclists' protective garments that have a high risk of damage e.g. impact, abrasion, and tearing.

— Zone 2 – the areas of motorcyclists' protective garments that have a moderate risk of damage e.g. abrasion and tearing.

— Zone 3 – the areas of motorcyclists' protective garments that have a low risk of damage e.g. abrasion and tearing.

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# 1 Scope

This European Standard specifies general requirements for motorcyclists' protective garments of Class B: protective garments, which are intended to provide limited protection to the wearer against abrasion injury. It applies to protective garments for motorcycle on-road use.

# 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 1150:1999, *Protective Clothing - Visibility clothing for non-professional use – Test methods and requirements*

EN 1621-1:2012, *Motorcyclists' protective clothing against mechanical impact - Part 1: Motorcyclists' limb joint impact protectors - Requirements and test methods*

EN 1621-2:2014, *Motorcyclists' protective clothing against mechanical impact - Part 2: Motorcyclists' back protectors - Requirements and test methods*

EN 1621-3:2018, *Motorcyclists' protective clothing against mechanical impact — Part 3: Motorcyclists' chest protectors - Requirements and test methods*

EN 1621-4:2013, *Motorcyclists' protective clothing against mechanical impact - Part 4: Motorcyclists' inflatable protectors - Requirements and test methods*

EN 13356:2001, *Visibility accessories for non-professional use — Test methods and requirements*

EN 13594:2015, *Protective gloves for motorcycle riders - Requirements and test methods*

EN 13634:2017, *Protective footwear for motorcycle riders - Requirements and test methods*

EN ISO 3377-1:2011, *Leather - Physical and mechanical tests - Determination of tear load - Part 1: Single edge tear (ISO 3377-1:2011)*

EN ISO 13688:2013, *Protective clothing - General requirements (ISO 13688:2013)*

EN ISO 4674-1:2016, *Rubber- or plastics-coated fabrics - Determination of tear resistance - Part 1: Constant rate of tear methods (ISO 4674-1:2016)*

EN ISO 5077:2008, *Textiles - Determination of dimensional change in washing and drying (ISO 5077:2007)*

EN 17092-1:2020, *Protective garments for motorcycle riders — Part 1: Test methods*

# 3 Terms and definitions

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

**3.1**
**garment**
jackets or trouser separate, one-piece or two-piece suit, impact protector ensemble clothing, and other protective motorcycle rider clothing types excluding protective motorcycle rider clothing for the head, neck, hands, or feet

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**3.1.1**
**class B garment**
clothing designed to provide the equivalent abrasion protection of EN 17092-4 clothing but without the inclusion of impact protectors.

**3.1.2**
**jacket**
garment constructed to provide protective coverage for the upper part of the body generally from the neck to the waistline or below, including the arms

Note 1 to entry: A system to link the jacket to trousers may be present.

Note 2 to entry: For two-piece suits, jackets are the part of the suit that provide protective coverage for the upper part of the body, generally from the neck to the waistline or below, including the arms.

**3.1.3**
**trousers (including salopettes)**
garment constructed to provide protective coverage from the area of the ankles up until the top of the hips or above

Note 1 to entry: A system to link the trousers to jackets may be present.

Note 2 to entry: For two-piece suits, trousers are the part of the suit that provide protective coverage generally from the ankles up until the top of the hips or above, including the area of the pelvis and buttocks.

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**3.1.4**
**one-piece suit**
single garment constructed to provide protective coverage generally from the ankles to the neck, including the arms

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**3.1.5**
**two-piece suit**
garment constructed in two pieces: an upper part, providing protective coverage for the upper part of the body including the arms and a lower part, providing protective coverage for the lower part of the body generally to the ankles, with a system that joins the two pieces thereby, creating a single garment, which essentially provides the protective coverage of a one-piece suit

**3.1.6**
**impact protector ensemble garment**
garment, which holds one or more impact protectors in place and is designed for use as an under or over-garment and may take the general form of a jacket, trousers, one-piece suit, two-piece suit, or other forms

**3.2**
**impact protector**
arrangement of energy absorbing and or impact spreading materials designed to offer some impact protection to a specific area

Note 1 to entry: Impact protectors may be permanent in a garment or removable.

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**3.3**
**hard shell impact protector**
impact protector with a hard exterior shell that is the first material of the protector affected in the event of an impact

Note 1 to entry: Hard impact protectors may be permanently mounted to a garment or removable.

**3.4**
**attached protector**
impact protector attached to the exterior of a garment but separate from the structurally strong layer and not integrated directly into the structurally strong layer by sewing, pockets or other means

Note 1 to entry: An attached protector may be permanently mounted to a garment or removable.

**3.5**
**external rigid or semi-rigid reinforcement**
structurally stiff material, generally of low flexibility, such as plastic or metal sheets that are attached to the exterior of the structurally strong layer or are sewn into the structurally strong layer, becoming a part of it, whose purpose is to improve the impact abrasion resistance at that location

**3.6**
**structural strong layer**
**SSL**
Layer or combination of layers of materials that confer the mechanical properties on a garment that allows it to resist damage and mechanical stress and thereby provide protection in an accident; these layers may or may not include the outermost layer

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**3.6.1**
**structurally strong seam**
**SSS**
permanent joint between pieces of material forming the SSL held together by sewing or other methods

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Note 1 to entry: Darts sewn into a continuous piece of material are not considered structural strong seams. Where the dart is created by folding and cutting in a “V” shape, and then bringing the edges of the “V” together, for sewing, this renders it a Structurally Strong Seam

**3.7**
**loop restraint**
mechanism whereby a part of a garment limb or a loop of material attached to it passes around a digit of the hand

**3.8**
**waistline**
line in the plane of the waist, at the level of the highest points of the iliac crests on a subject standing upright

**3.9**
**beltline**
line in a horizontal plane, at the level of the bottom seam, or 4 cm down from the top of the waistband, at the centre front of the trousers on a subject standing upright