

# Teknisk rapport

## SIS-CEN/TR 17512:2020

**Personlig skyddsutrustning – Smarta plagg – Termer och definitioner**

**Personal protective equipment – Smart garments – Terms and definitions**



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Denna tekniska rapport är inte en svensk standard. Detta dokument innehåller den engelska språkversionen av CEN/TR 17512:2020.

This Technical Report is not a Swedish Standard. This document contains the English language version of CEN/TR 17512:2020.



TECHNICAL REPORT

**CEN/TR 17512**

RAPPORT TECHNIQUE

TECHNISCHER BERICHT

June 2020

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ICS 01.040.59; 13.340.10; 01.040.13; 59.080.80

English Version

## Personal protective equipment - Smart garments - Terms and definitions

Équipement de protection individuelle - Vêtements  
intelligents - Termes et définitions

Persönliche Schutzausrüstungen - Intelligente  
Kleidungen - Begriffe und Definitionen

This Technical Report was approved by CEN on 24 May 2020. It has been drawn up by the Technical Committee CEN/TC 162.

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**SIS-CEN/TR 17512:2020 (E)**

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## **European foreword**

This document (CEN/TR 17512:2020) 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.

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 has been drafted conjunctionally according to the mode 4 cooperation between CEN/TC162 and CEN/TC 122 (/WG 14), CEN/TC 248 (/WG 31) and CENELEC/SR 124.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association [1].

## SIS-CEN/TR 17512:2020 (E)

### Introduction

The purpose of this document is to support of the implementation of Regulation (EU) No 1007/2011 and of Article 5 and Annex II of Regulation (EU) 2016/425, by listing terms and defining them in relation to the advanced garments and ensembles of garments that provide protection against heat and flame, with integrated smart textiles and non-textile elements for enhanced health, safety and survival capabilities.

This document is structured with subclauses related to the different (technical) facets which make up smart garments providing protection against heat and flame.

Therefore, the listed terms and definitions took into consideration those from:

- The sector of textile and clothing (Clause 3.1);
- The sector of personal protective equipment – PPE – (Clause 3.2);
- The sector smart textiles (Clause 3.3);
- The sector of electronics (Clause 3.4);
- The sector of ergonomics (Clause 3.5);
- The sector of smart personal protective equipment – smart PPE – (Clause 3.6).

The main sources of existing terms and definitions are:

- a) Regulation (EU) No 1007/2011 on *textile fibre names and related labelling and marking of the fibre composition of textile products* (mainly referred to in Clause 3.1);
- b) EN ISO 11610:—<sup>1</sup>, *Protective clothing - Vocabulary* (mainly referred to in Clause 3.2);
- c) ISO/TR 19591:2018, *Personal protective equipment for firefighters - Standard terms and definitions* (mainly referred to in Clause 3.2);
- d) ISO/TS 20141:—<sup>2</sup>, *Guideline on compatibility of PPE* (mainly referred to in Clause 3.2);
- e) CEN/TR 16298:2011<sup>3</sup>, *Textile and textile products - Smart textiles - Definitions, categorization applications and standardization needs* (mainly referred to in Clause 3.3);
- f) IEC 60050-151:2001, *International Electrotechnical Vocabulary (IEV) - Part 151: Electrical and magnetic devices* (mainly referred to in Clause 3.4);
- g) WI 00248652<sup>4</sup>, *Textiles and textile products - Textiles with integrated electronics and ICT - Definitions, categorization, applications and standardization needs* (mainly referred to in Clause 3.4);
- h) ISO 9241-11:2018, *Ergonomics of human-system interaction - Part 11: Usability: Definitions and concepts* (mainly referred to in Clause 3.5).

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<sup>1</sup> Under development since 2018-08.

<sup>2</sup> Under development since 2019-04.

<sup>3</sup> The technical report CEN/TR 16298:2011 has been proposed as ISO/TR 23383 (title unchanged).

<sup>4</sup> Under development since 2018-04.



## 1 Scope

This document lists terms and definitions related to core terms in the field of smart garments providing protection against heat and flame (i.e. advanced garments and ensembles of garments as mentioned in the Introduction). It is intended to facilitate communications, for example, between organizations and individuals in industry and those who interact with them.

## 2 Normative references

There are no normative references in this document.

## 3 Terms and definitions

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

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

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

### 3.1 Terms and definitions related to textile and clothing

#### 3.1.1

##### **textile fibre**

unit of matter characterized by its flexibility, fineness and high ratio of length to maximum transverse dimension, which render it suitable for textile applications

[SOURCE: Regulation EU 1007/2011, Article 3, 1. (b), (i)]

#### 3.1.2

##### **textile product**

any raw, semi-worked, worked, semi-manufactured, manufactured, semi-made-up or made-up product which is exclusively composed of textile fibres, regardless of the mixing or assembly process employed

[SOURCE: Regulation EU 1007/2011, Article 3, 1. (a)]

#### 3.1.3

##### **textile material**

material made of textile fibres and intended to be used, as such or in conjunction with other textile or nontextile items, for the production of textile products.

Note 1 to entry: Textile material refers to linear textile materials (e.g. fibres, yarns, threads) as well as surface textile material (e.g. knitted, woven and non-woven fabrics).

[SOURCE: CEN/TR 16298:2011, 2.1]

#### 3.1.4

##### **non-textile element**

product which is not composed of textile fibres

Note 1 to entry: Non-textile elements may contain, for example, active medical devices, radio and electrically operated components, slide fastener, (press) buttons, membranes, non-textile patches.

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### **3.1.5**

#### **garment**

single article of clothing

Note 1 to entry: The term “garment” is intended for referring to the product.

Note 2 to entry: The garment may consist of single or multiple layers.

Note 3 to entry: Examples of garments: trousers, jacket, gloves, socks.

[SOURCE: EN ISO 11610:—, 3.1.2]

### **3.1.6**

#### **garment ensemble**

#### **ensemble of garments**

group of garments worn together on the body at the same time

[SOURCE: EN ISO 11610:—, 3.5.1]

### **3.1.7**

#### **advanced garment**

garment which shows enhanced functionality(ies)

Note 1 to entry: “protection” is one of the functions that a garment can provide.

### **3.1.8**

#### **seam**

permanent fastening between two or more pieces of material by sewing or any other method

[SOURCE: EN ISO 11610:—, 3.4.1]

### **3.1.9**

#### **structural seam**

seam that is necessary for the integrity of the garment

[SOURCE: EN ISO 11610:—, 3.4.2]

## **3.2 Terms and definitions related to personal protective equipment (PPE)**

### **3.2.1**

#### **compatibility (of PPE)**

capability of two or more items or components of personal protective equipment to exist or function in the same system without modification, adaption or mutual interference

[SOURCE: ISO/TS 20141:—, 3.1]

### 3.2.2

#### **ageing**

changing of the product performance over time during use or storage

EXAMPLES:

- cleaning, maintenance or disinfecting processes;
- exposure to visible and/or ultraviolet radiation;
- exposure to high or low temperatures or to changing temperatures;
- exposure to chemicals including humidity;
- exposure to biological agents such as bacteria, fungi, insects or other pests;
- exposure to mechanical action such as abrasion, flexing, pressure and strain;
- exposure to contaminants such as dirt, oil, splashes of molten metal, etc.;
- exposure to wear and tear.

[SOURCE: EN ISO 11610:—, 3.6.13]

### 3.2.3

#### **cleaning**

process by which a garment is made again serviceable and/or hygienically wearable by removing any dirt or contamination

[SOURCE: EN ISO 11610:—, 3.6.16]

### 3.2.4

#### **garment assembly**

series of garments arranged in the order as worn.

Note 1 to entry: It may contain multilayer materials, material combinations or a series of separate garments in single or multiple layers.

[SOURCE: EN ISO 11610:—, 3.3.28]

### 3.2.5

#### **material assembly**

#### **component assembly**

combination of all materials of a multi-layer garment (including hardware) presented exactly as the finished garment construction

[SOURCE: EN ISO 11610:—, 3.3.26]

### 3.2.6

#### **conditioning**

one or more operations intended to bring a sample or test specimen into a state of equilibrium with regard to temperature and humidity

[SOURCE: ISO 291:2008, definition 3.4]