
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.

CEN members are the national standards bodies of 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 United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents

Page

European foreword.....	3
Introduction	4
1 Scope	5
2 Normative references.....	5
3 Terms and definitions	5
3.1 Terms and definitions related to textile and clothing.....	5
3.2 Terms and definitions related to personal protective equipment (PPE)	6
3.3 Terms and definitions related to smart textiles	8
3.4 Terms and definitions related to electronics.....	10
3.5 Terms and definitions related to ergonomics	12
3.6 Terms and definitions related to smart PPE	14
Annex A (informative) Terms in alphabetical order	15
Bibliography.....	17

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].

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:—¹, *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:—², *Guideline on compatibility of PPE* (mainly referred to in Clause 3.2);
- e) CEN/TR 16298:2011³, *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 00248652⁴, *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).

¹ Under development since 2018-08.

² Under development since 2019-04.

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

⁴ 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 non-textile 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.

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]