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**Clothing — Digital fittings —  
Attributes of virtual garments**

*Habillement — Bien-aller virtuel — Caractéristiques des vêtements  
virtuels*

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 133, *Clothing sizing systems — Size designation, size measurement methods and digital fittings*.

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## Introduction

This International Standard is the second of a series which deals with virtual garments for digital fitting.

This International Standard specifically presents attributes of virtual upper and lower body garments, virtual hats and gloves in the virtual garment system, thus supporting online consumers, fashion designers, manufacturers and retailers who have an interest in the style and fit of clothes. It is related to ISO 18163, which deals with composition and attributes of the virtual garments. It is therefore expected to improve convenience for consumers, improve efficiency in clothing manufacturing and contribute to a decrease in the return rate of clothes purchased online.

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# Clothing — Digital fittings — Attributes of virtual garments

## 1 Scope

This International Standard defines the attributes required to produce virtual garments, including virtual hats and virtual gloves using virtual garment software.

## 2 Terms and definitions

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

### 2.1 General terms

#### 2.1.1

##### **virtual garment items**

virtual garments worn on the virtual human body for digital fitting

Note 1 to entry: Includes virtual jackets, virtual shirts, virtual blouses, virtual T-shirts, virtual skirts, virtual trousers, virtual dresses, virtual hat, virtual gloves, etc.

Note 2 to entry: Woven fabric is made by the interlacement of two sets of warp and weft yarn. Knitted fabric is made by interlooping of one set of yarn. Virtual garment system represents the type of fabric through a process of texture mapping and rendering regardless of construction method.

#### 2.1.1.1

##### **virtual jacket**

virtual upper body garments that are worn on the virtual human body and come down between the waist and hips

Note 1 to entry: See [Figure A.1](#).

#### 2.1.1.2

##### **virtual shirt**

virtual men's upper body garments that are worn as a middle layer or outside layer and have a collar, collar stand, cuff opening and decorative cuffs, and are worn on the upper virtual human body

Note 1 to entry: See [Figure A.2](#).

#### 2.1.1.3

##### **virtual blouse**

virtual women's upper body garments that are worn on the upper virtual human body

Note 1 to entry: See [Figure A.3](#).

#### 2.1.1.4

##### **virtual T-shirt**

virtual garments that are shirts made of knit material and are worn on the upper virtual human body

Note 1 to entry: See [Figure A.4](#).

#### 2.1.1.5

##### **virtual skirt**

lower body garment for digital fitting in a cylindrical shape that covers both legs at once

Note 1 to entry: Includes skirts of various lengths and silhouettes.

Note 2 to entry: See [Figure B.2](#).

**2.1.1.6**

**virtual trousers**

lower body garment for digital fitting that covers each leg separately

Note 1 to entry: Includes trousers of various lengths and silhouettes.

Note 2 to entry: See [Figure B.1](#).

**2.1.1.7**

**virtual dress**

virtual women's whole body garment that consists of a skirt with an attached bodice

Note 1 to entry: See [Figure C.1](#).

**2.1.1.8**

**virtual hat**

virtual garment worn on the head of the virtual human body

Note 1 to entry: Virtual caps and virtual beanies are included.

**2.1.1.8.1**

**virtual cap**

virtual garment worn on the head of the virtual human body with a partial visor

**2.1.1.8.2**

**virtual beanie**

virtual garment worn on the head of the virtual human body with no brim and just a crown that is made of a stretchy knit material

Note 1 to entry: Includes berets.

**2.1.1.9**

**virtual gloves**

virtual garment worn on the hands of the virtual human body

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**2.2 Terms relating to basic composition and attributes**

**2.2.1 Virtual garment pattern**

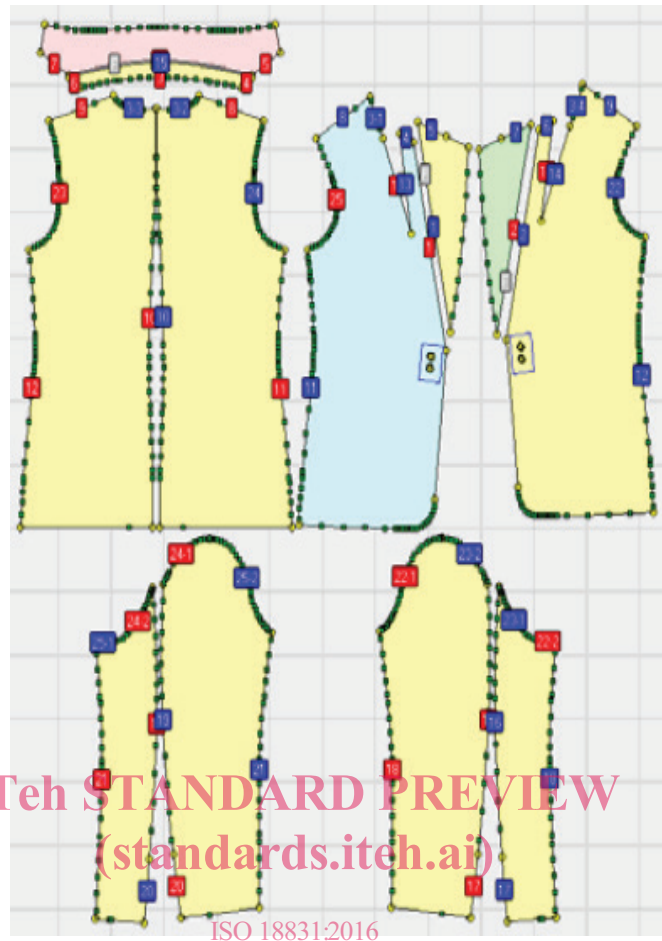
**2.2.1.1**

**virtual upper body garment pattern**

virtual upper body garment based on a basic garment pattern consisting of a virtual front bodice pattern, virtual side bodice pattern, virtual back bodice pattern, and virtual sleeve pattern

Note 1 to entry: An example of a virtual upper body garment pattern is shown in [Figure 1](#).





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**Figure 1 — Example of the structure of a virtual upper body garment pattern**

#### 2.2.1.1.1

##### **virtual front bodice pattern**

virtual garment pattern placed on the front of the torso of the virtual human body

#### 2.2.1.1.2

##### **virtual side bodice pattern**

virtual garment pattern placed on the side of the torso of the virtual human body

#### 2.2.1.1.3

##### **virtual back bodice pattern**

virtual garment pattern placed on the back of the torso of the virtual human body

#### 2.2.1.1.4

##### **virtual sleeve pattern**

<upper body> virtual garment pattern placed on the arms of the virtual human body

Note 1 to entry: A garment may not have sleeves according to the design.

#### 2.2.1.2

##### **virtual lower body garment pattern**

virtual lower body garments based on basic garment patterns, including the virtual front pattern, virtual back pattern and virtual waist belt pattern

Note 1 to entry: An example of a virtual lower body garment pattern is shown in [Figure 2](#) and [Figure 3](#).

2.2.1.2.1

**virtual front pattern**

<lower body> virtual garment pattern placed on the front of the leg of the virtual human body

2.2.1.2.2

**virtual side pattern**

virtual garment pattern placed on the side of the leg of the virtual human body

2.2.1.2.3

**virtual back pattern**

<lower body> virtual garment pattern placed on the back of the leg of the virtual human body

2.2.1.2.4

**virtual waist belt pattern**

virtual garment pattern placed on the waist of the virtual human body

Note 1 to entry: The lower body garment may not have a belt according to the design.

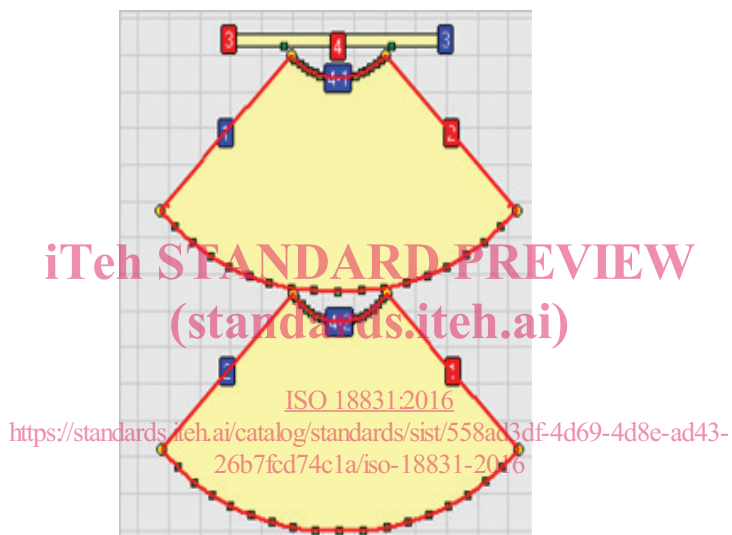


Figure 2 — Example of the structure of a virtual skirt pattern

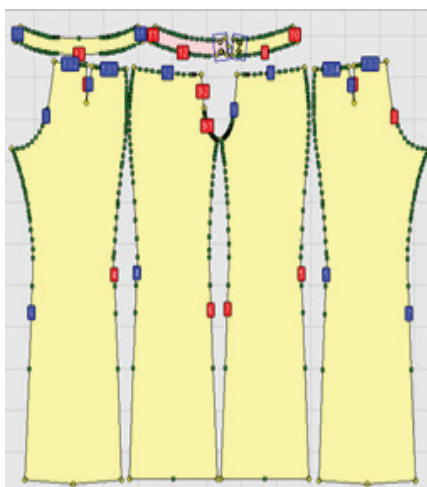


Figure 3 — Example of the structure of a virtual trousers pattern

### 2.2.1.3

#### virtual whole body garment pattern

virtual whole body garments based on basic garment patterns, including the *virtual front pattern* (2.2.1.3.1), *virtual back pattern* (2.2.1.3.2) and *virtual sleeve pattern* (2.2.1.3.3)

Note 1 to entry: An example of a virtual whole body garment pattern is shown in Figure 4.

#### 2.2.1.3.1

##### virtual front pattern

<whole body> virtual garment pattern placed on the front of the virtual human body

#### 2.2.1.3.2

##### virtual back pattern

<whole body> virtual garment pattern placed on the back of the virtual human body

#### 2.2.1.3.3

##### virtual sleeve pattern

<whole body> virtual garment pattern placed on the arms of the virtual human body

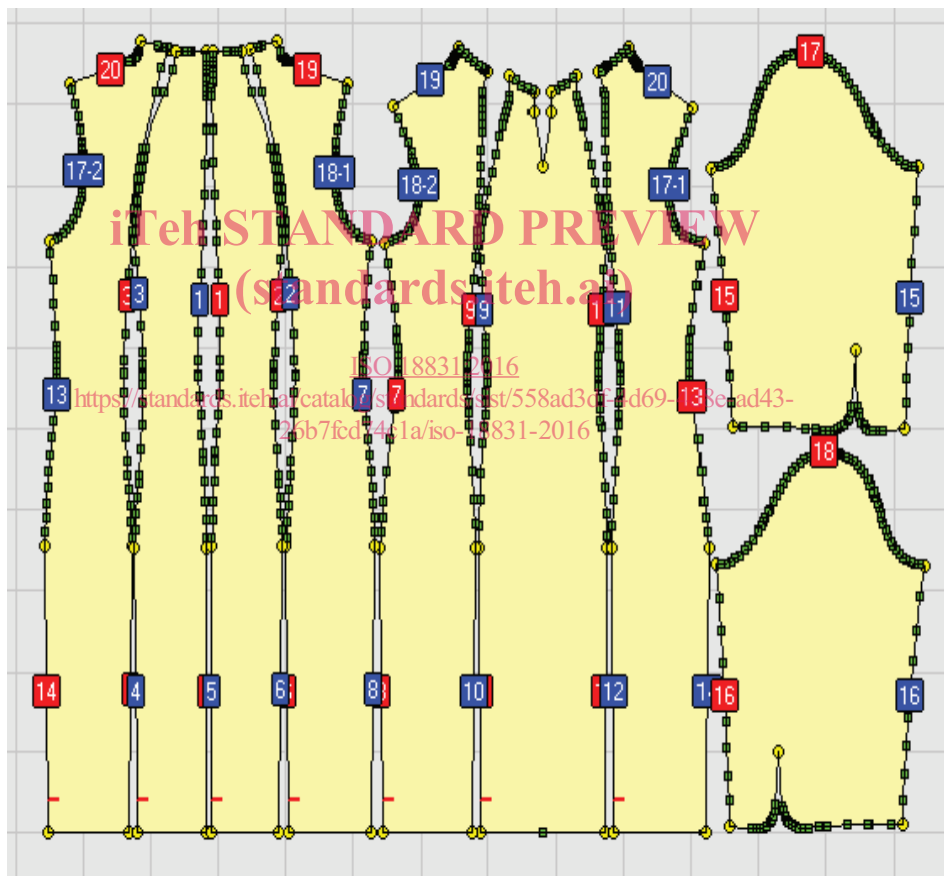


Figure 4 — Example of the structure of a virtual dress pattern

### 2.2.1.4

#### virtual hat pattern

*virtual hat* (2.1.1.8) based on a basic garment pattern which consists of a virtual crown pattern and/or a virtual brim pattern

#### 2.2.1.4.1

##### virtual crown pattern

part of the *virtual hat* (2.1.1.8) placed on the head of the virtual human body

Note 1 to entry: It can be round or angular, etc.