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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 45068.3-2026

**Digital fitting systems - Performance evaluation protocol - Part
3: Gap between the virtual human body and the virtual garment**

数字化试衣 系统性能评估 第3部分：人体与服装的间隙

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 3 of GB/T 45068 "Performance Evaluation of Digital Fitting Systems". GB/T 45068 has published the following...

part.

---Part 1: Virtual Human Representation;

---Part 2: Virtual Clothing Representation;

---Part 3: The gap between the human body and clothing.

This document is modified to adopt ISO 20947-3:2023 "Digital fitting room system performance evaluation - Part 3: Fitting room performance evaluation gap".

This document has undergone the following structural adjustments compared to ISO 20947-3:2023.

b) Chapter 5, 5.2.1 corresponds to 5.2.2 in Chapter 5 of ISO 20947-3:2023, and 5.2.2 corresponds to 5.2.1 in ISO 20947-3:2023.

The main technical differences between this document and ISO 20947-3:2023, and the reasons therefor, are as follows.

a) The scope of application of the document has been expanded (see Chapter 1) to more clearly define the target audience;

b) The terms and definitions related to "digital fitting system", "virtual clothing", "virtual human body", and "virtual fitting mannequin (fitting model)" have been removed.

Definitions (see ISO 20947-3:2023, 3.1-3.4), and normative references GB/T 41419 and

GB/T 41421 have been added.

GB/T 45068.1 and GB/T 45068.2 (see Chapter 3);

c) Added terminology and definitions for the profile lines for easier understanding (see 3.4);

d) Based on the document description, the requirements for the function to measure the perimeter of a virtual cross-section have been modified (see 4.2.1);

e) Added sleeve outlines to the garment cross-sectional projection (side view) example [see Figure 12a) and Figure 12d)];

f) The procedure for measuring the gap between the physical fitting mannequins has been modified (see 5.2);

g) The feature description has been changed to a qualitative assessment (see Chapters 5 and 6).

The following editorial changes have been made to this document.

a) To align with existing standards, the standard title will be changed to "Performance Evaluation of Digital Fitting Systems Part 3: Human Body and Clothing".

gap";

b) Added the missing virtual human body outline in the example image of measuring the perimeter length of the virtual cross-section [see Figure 1a)];

c) The silhouette of the virtual garment in the example diagram of measuring the perimeter length of the virtual longitudinal section (front view) has been modified [see Figures 2a) and 2f)];

d) The index number of the right trouser leg outline in the example diagram of the measured virtual longitudinal section (front view) perimeter length has been changed to number 3, and the index number of the left trouser leg outline has been changed to number 3.

The line index number is 4 [see Figure 2e)];

e) Added the missing virtual human body outline in the example image of measuring the gap around the virtual cross-section [see Figure 4a)];

(4.3.3);

g) Added descriptions of the gap display diagram and garment pressure display diagram (see notes for Figure 7 and Figure 8);

h) Added introductory text to the virtual garment cross-section projection image (see 4.7.2~4.7.4);

i) The warp direction of the trouser waistband in the example diagram has been changed

[see Figures 9b) and 9e];

j) An introductory text and table title have been added to the appendix (see Appendix A).

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China National Textile and Apparel Council.

This document is under the jurisdiction of the National Technical Committee on Standardization of Clothing (SAC/TC219).

Introduction

Digital fitting systems, which allow users to try on clothes using virtual human bodies and virtual clothing in cyberspace, are gaining popularity in the apparel industry.

During the product evaluation phase, the system effectively reduces material waste in clothing products. Using computer-aided design to create virtual clothing patterns not only enables the creation of...

Virtual clothing allows users to try on clothes on virtual mannequins or virtual models. Digital virtual try-on technology is suitable for designers, manufacturers, educators, and others.

Carrying out related work will help improve the fit of clothing and increase production efficiency.

This allows for the evaluation of the system performance of digital fitting rooms, enabling users to select the appropriate digital fitting room system based on their intended use.

Depending on the evaluation object, GB/T 45068 "Performance Evaluation of Digital Fitting Systems" is proposed to consist of the following three parts.

---Part 1: Virtual Human Representation. The aim is to describe and quantify differences in human body dimensions and to visualize the differences between real and virtual human models.

Methods for differentiating shapes.

---Part 2: Virtual Clothing Representation. The purpose is to describe virtual clothing patterns and clothing try-on in a digital fitting system.

Methods for functional description and performance evaluation.

---Part 3: The Gap Between the Human Body and Clothing. The purpose is to describe the evaluation of virtual clothing and virtual human bodies in digital fitting systems.

Methods for creating gaps in virtual fitting tables.

Digital fitting room system performance evaluation Part 3: The Gap Between the Human Body and Clothing

1 Scope

This document describes the use of virtual clothing and the gap between virtual clones, virtual twins, or virtual fitting mannequins (fitting models) to...

Methods for evaluating the compatibility of virtual clothing with virtual human bodies.

This document applies to all stages of the research, development, application, communication, and commercialization of digital virtual fitting systems.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 41419 Terms and definitions for digital fitting and virtual human body (GB/T 41419-2022, ISO 18825-1:2016) GB/T 41421 Terms and definitions for digital fitting and virtual clothing (GB/T 41421-2022, ISO 18163:2016) MOD) GB/T 45068.1 Performance evaluation of digital fitting systems - Part 1: Virtual human representation (GB/T 45068.1-2024) ISO 20947-1:2021, MOD) GB/T 45068.2 Performance evaluation of digital fitting systems - Part 2: Virtual clothing representation (GB/T 45068.2-2025) ISO 20947-2:2020, MOD)

3 Terms and Definitions

The terms and definitions defined in GB/T 41419, GB/T 41421, GB/T 45068.1, and GB/T 45068.2, as well as the following terms and definitions, apply to this standard.

document.

virtual crosssection Closed contour lines extracted from the cutting surfaces of the main axis or three basic axes of the vertical virtual human body parts.

gap

The space between virtual clothing and virtual human body or virtual fitting table (fitting model) is displayed in the form of a virtual cross section.

Note 1: Spatial variations are influenced by gravity, friction, structural design, and material properties.