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

GB/T 45068.2-2025

**Digital fitting systems - Performance evaluation protocol - Part
2: Virtual garment representation**

数字化试衣系统性能评估 第2部分：虚拟服装表示

(English Translation)

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting is required.

This document is part 2 of GB/T 45068 "Digital Fitting System Performance Evaluation". GB/T 45068 has been published as follows part.

--Part 1: Virtual Human Representation;

--Part 2: Virtual clothing representation.

This document is modified to adopt ISO 20947-2:2020 "Performance evaluation of digital fitting systems Part 2: Virtual garments".

The technical differences between this document and ISO 20947-2:2020 and their reasons are as follows.

- a) Changed the definition of the term "virtual garment pattern" (see 3.1.4) to make it more precise;
- b) Changed the definition of the term "sleeve length line" (3.2.1.4) to make it more precise;
- c) The definition of the term "shoulder line" (see 3.2.2.2) has been changed to make the definition more precise;
- d) The definition of the term "collar line" (see 3.2.2.3) has been changed to make the definition more precise;
- e) The measurement method of the term "posterior midline" (see 3.2.2.6) has been changed to make the measurement more precise;
- f) Added the terms and definitions of "side seam", "waist seam" and "leg seam" (see 3.2.3.2 to 3.2.3.4);

- g) Change the footnote of Table 1 to "Note" (see Table 1, Note);
- h) Change the normative Appendix B Report Format. Qualitative Evaluation of Digital Fitting System to an informative appendix (see Appendix B).

The following editorial changes were made to this document.

- a) Added references (see References).

Introduction

Digital fitting systems use virtual human bodies and virtual clothing in cyberspace to fit and fit clothes, and are gaining more and more attention in the clothing industry.

In the product evaluation stage, the system effectively reduces the waste of clothing product materials. Using computers to design virtual clothing samples not only it can create virtual clothing and try it on a virtual human body or a virtual mannequin. Digital fitting technology is suitable for designers, manufacturers, educators, Etc., which is beneficial to improve the fit of clothing and increase productivity.

Digital fitting technology is still developing rapidly. There are great differences in technical specifications and performance between different systems.

It is beneficial to the system performance evaluation of the digital fitting system, and it is convenient for users to select a suitable digital fitting system according to the purpose of use.

Depending on the evaluation object, GB/T 45068 "Performance evaluation of digital fitting systems" is planned to consist of the following three parts.

--Part 1: Virtual Human Representation. The purpose is to describe the methods for quantifying the size differences of human bodies and visualizing the real human body and virtual human models.

Method to distinguish the shape between types.

--Part 2: Virtual Clothing Representation. The purpose is to describe the virtual clothing samples and clothing fitting related aspects of the digital fitting system.

Methods for functional description and performance evaluation.

--Part 3: The gap between human body and clothing. The purpose is to describe the evaluation of virtual clothing and virtual human in digital fitting system.

A method for adjusting the gap between the human body or the virtual fitting mannequin.

Performance evaluation of digital fitting system Part 2: Virtual Garment Representation

1 Scope

This document specifies the functions related to virtual garment samples and garment fitting in a digital fitting system, and describes the methods for performance evaluation.

This file is suitable for designers and pattern makers (layout makers) to create virtual clothing patterns, try on virtual fitting mannequins (fitting models), and other applications.

2 Normative references

This document has no normative references.

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 General terms

3.1.1

Digital fitting system digital fitting system by analyzing the distribution of surface strain, gap between human body and clothing, stress diagram, cross section, surface wrinkles, clothing equilibrium state, etc.

Qualitative and/or quantitative evaluation of the effect of virtual clothing or virtual clothing samples being worn on a virtual fitting mannequin (fitting model) (3.1.2) A system for physical assessment.

3.1.2

virtual fit mannequin (fit form) Models for drape, garment shape and fit assessment in the virtual space of digital fitting.

3.1.3

Virtual garment

Three-dimensional clothing that exists digitally in virtual space.

[Source: GB/T 41421-2022, 3.1.3, modified] 3.1.4 virtual garment pattern A closed shape consisting of straight lines and curves used to mark areas of virtual clothing.

Note: Each pattern consists of an outline line and interior lines that represent seams, interior openings, folds, and other garment features.

[Source: GB/T 41421-2022, 3.1.2, modified] 3.1.5 Clothing simulation Create virtual clothing on the virtual human body using virtual clothing patterns (3.1.4), virtual sewing lines and bounding boxes and simulate drape.

3.1.6

Material properties

Physical properties of materials, including tensile modulus, bending stiffness, shear strength, thickness, grammage, etc.