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

GB/T 38001.61-2026

Replacing GB/T 38001.61-2019

**Flexible display devices - Part 6-1: Mechanical test methods -
Deformation tests**

柔性显示器件 第6-1部分：机械试验方法 形变试验

(English Translation)

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Table of Contents

Foreword
Introduction
1 Scope
2 Normative references
3 Terms and Definitions
4 Standard atmospheric conditions
5 Sample Preparation
5.2 Sample Preparation
6 Mechanical stress test methods
6.1 General Rules
6.2 Dynamic bending test
6.3 Static bending test
6.4 Composite bending test
6.5 Dynamic Curling Test
6.6 Static Curling Test
6.7 Twist Test
6.8 Tensile test
References

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 6-1 of GB/T 38001 "Flexible Display Devices". GB/T 38001 has already published the following parts.

- Part 1-1.Terminology and Symbols;
- Part 5-1.Optical performance testing methods;
- Part 5-2.Test methods for optical performance of non-portable curved display devices;
- Part 5-3.Visual Evaluation Methods;
- Part 6-1.Mechanical Testing Methods - Deformation Tests;

--Part 6-2.Environmental Testing Methods;

--Part 6-3.Mechanical testing methods. impact and hardness tests.

This document replaces GB/T 38001.61-2019 "Flexible Display Devices - Part 6-1.Test Methods for Mechanical Stress", and is consistent with...

Compared to GB/T 38001.61-2019, apart from structural adjustments and editorial changes, the main technical changes are as follows.

--Sample preparation has been added (see Chapter 5);

--Added information on factors to consider in experimental design (see 6.1);

--Added schematic diagrams of different dynamic bending test devices, such as Figure 1c), Figure 1d), Figure 1e), and Figure 1f (see Figure 1);

--Added detailed descriptions of the test procedures (see 6.2.4, 6.3.4, 6.4.4, 6.5.4, 6.7.4, 6.8.4);

--A test report has been added, and the examples in the original test procedures have been moved to the test report (see 6.2.5);

--Added test reports (see 6.3.5, 6.4.5, 6.5.5, 6.7.5, 6.8.5);

--A static curling test has been added (see 6.6).

This document is equivalent to IEC 62715-6-1:2018 "Flexible display devices - Part 6-1.Mechanical test methods - Deformation test".

The following minimal editorial changes have been made to this document.

--The term "display device" in the text should be consistently corrected to "display module";

--Added a note in 6.1 to clarify the type of flexible display module applicable to each test;

--Add A and B to the titles of Figures 5a) and 5b);

--In section 6.2.4, "Repeat steps c) to j) using other samples" is corrected to "Repeat steps c) to j) for the next one or more samples".

"Continue the test in step i) until all samples have been tested";

The tests in steps c) to h) are continued until all samples have been tested.

--In section 6.4.4, "repeating steps c) to m) of the test for one or more samples" is corrected to "repeating the test for the next one or more samples".

The tests in steps c) to m) are continued until all samples have been tested.

--In section 6.5, "curling test" is corrected to "dynamic curling test";

--Section 6.5.1 states that "This test method is particularly suitable for evaluating the roll-up

characteristics of flexible display modules when unfolded, rolled up, or held in a rolled-up state." Corrected to "This test method is applicable to evaluating the curling characteristics of flexible display modules in their unfolded and rolled-up states";

--In section 6.5.4, "repeating steps c) to h) of the test for one or more samples" is corrected to "repeating the test for the next one or more samples".

The tests in steps c) to h) are continued until all samples have been tested.

--Section 6.6.1 states that "This test method is particularly suitable for evaluating the roll-up characteristics of flexible display modules when unfolded, rolled up, or held in a rolled-up state." Corrected to "This test method is applicable to evaluating the static curling characteristics of flexible display modules in maintaining a curled state";

--In sections 6.6.4 and 6.7.4, "repeating steps c) to k) of the test on one or more samples" is corrected to "repeating the test on the next one or more samples".

Repeat steps c) to k) until all samples have been tested.

--Add to 6.8.4j) "Repeat the tests of steps c) to i) for the next one or more samples until all samples have been tested".

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 Ministry of Industry and Information Technology of the People's Republic of China.

This document is under the jurisdiction of the National Technical Committee on Standardization of Electronic Display Devices (SAC/TC 547).

Introduction

The new display industry is a strategic, fundamental, and pioneering industry for national economic and social development. It is crucial for the future, affects the overall situation, and has a significant impact.

In the high-tech field with far-reaching implications and strategic importance, accelerating the development of the new display industry is crucial for promoting my country's industrial restructuring and implementing innovation-driven development.

Strategically, flexible displays are of great significance in promoting high-quality and efficient economic development. As one of the important development directions of new displays, flexible displays break through the limitations of traditional...

The limitations of traditional display screen form factors have brought new development opportunities to the emerging display industry. This is to meet the design and development needs of flexible display devices in my country.

The needs of research and development, production, and testing necessitate the development of a series of standards for flexible display devices. GB/T 38001 "Flexible Display Devices" is proposed to include the following parts.

constitute.

--Part 1-1.Terminology and Symbols. The aim is to define the preferred terms, definitions, and symbols for flexible display devices.

--Part 2: Basic Ratings and Characteristics. The purpose is to specify the basic ratings and characteristics required for flexible display devices.

--Part 5-1.Optical Performance Test Methods. The aim is to specify the optical properties of flexible display devices under darkroom and ambient light conditions.

Standard test conditions and test methods for energy.

--Part 5-2.Test methods for the optical performance of non-portable curved display devices. The purpose is to specify the optical performance of non-portable curved display devices.

Standard test conditions and methods for optical performance under darkroom conditions.

--Part 5-3.Visual Evaluation Methodology. The purpose is to define the overall framework and operating procedures for the visual evaluation of flexible display devices.

Standard test conditions and methods for optical performance.

--Part 6-1.Mechanical Testing Methods - Deformation Test. The purpose is to specify the tests for evaluating the mechanical stability of flexible display modules.

method.

--Part 6-2.Environmental Testing Methods. The purpose is to specify the environmental testing methods for flexible display devices under specified conditions of use, storage, and transportation.

Environmental adaptability testing methods.

--Part 6-3.Mechanical Testing Methods - Impact and Hardness Tests. The aim is to specify standards for the mechanical reliability of flexible display devices.

The test methods are specifically designed for the mechanical reliability of flexible display devices under impact and hardness conditions.

--Part 6-22.Test methods for creases and waviness. The purpose is to specify standard measurements for the surface creases and waviness revealed by folding.

Test conditions and test methods.

--Part 6-31.Mechanical Test Methods - Bending Pendulum Test. The purpose is to specify the testing methods for flexible display devices in a folded state.