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

GB/T 3681.2-2021

**Plastics - Methods of exposure to solar radiation - Part 2: Direct
weathering and exposure behind window glass**

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Standardization Administration**

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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 of Standardization Documents"

drafted:

This document is part 2 of GB/T 3681 "Test methods for solar radiation exposure of plastics": GB/T 3681 has issued the following

part:

--- Part 1: General;

--- Part 2: Direct natural weathering and weathering after exposure to glazing:

This document replaces GB/T 3681-2011 "Plastics Natural Sunlight Weathering, Glass Filtered Sunlight Weathering and Fresnel Mirrors"

Exposure Test Methods for Accelerated Solar Weathering" on direct natural solar radiation (Method A), glass filtered solar radiation (Method B)

content: Compared with GB/T 3681-2011, except for structural adjustment and editorial changes, the main technical changes are as follows:

a) Changed the content of the "Device" chapter to provide the aluminum alloy model of the device used in Method A and refine the glass used in Method B

requirements (see Chapter 5, 5:2 and 5:3 of the:2011 edition);

b) Changed the inclination angle of "exposure orientation" (see 7:1, 7:1 of the:2011 edition);

c) Changed the requirements for "exposed site" (see 7:2, 7:2:1 of the:2011 edition):

This document is identical to ISO 877-2:2009 "Test methods for solar radiation exposure of

plastics - Part 2: Direct natural weathering and

Weathering After Exposure to Window Glass:"

A chapter "Terms and Definitions" has been added to this document:

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

--- Added "References":

Please note that some content of this document may be patented: The issuing agency of this document assumes no responsibility for identifying patents:

Introduction

The solar radiation exposure test method is an important method for evaluating the outdoor weather resistance of materials: GB/T 3681 "Plastics Solar Radiation Exposure Test

"Test Methods" provides a test method for plastics to undergo relevant changes after exposure to a specific environment and a set exposure period, and is intended to consist of three parts:

--- Part 1: General;

--- Part 2: Direct natural weathering and weathering after exposure to glazing;

--- Part 3: Accelerated natural weathering of concentrated solar radiation:

Consider GB/T 3681-2011 "Plastics Natural Sunlight Weathering, Glass Filtered Sunlight Weathering and Fresnel Mirror Accelerated Days"

Method C in "Exposure Test Methods for Photo Weathering" is rarely used in China, and method C has not been revised according to ISO 877-3 this time: because

Therefore, this document only partially replaces GB/T 3681-2011, in which method C can continue to be used, if the Fresnel reflection concentrator has been technically

Update, it is recommended to perform the exposure test of Method C in accordance with ISO 877-3:

Methods A and B in the solar radiation exposure test simulate outdoor, indoor, or in-vehicle aging, respectively: For specific materials,

Users can determine the most suitable exposure test conditions by themselves:

Test method for solar radiation exposure of plastics

Part 2: Direct natural weathering and

Weathering after exposure to window glass

1 Scope

This document specifies Method A for direct exposure of plastics to solar radiation and exposure of plastics to solar radiation after filtration through window glass

Method B: The purpose is to evaluate the change in properties of plastics after exposure for a set period of time:

Note: The scope of application refers to Chapter 1 in GB/T 3681:1-2021:

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text: Among them, dated citations

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

GB/T 3681:1-2021 Test methods for solar radiation exposure of plastics - Part 1: General (ISO 877-1:2009, IDT)

ISO 4582 Measurement of change in colour and properties of plastics after glass filtration after exposure to solar radiation, natural climate or laboratory radiation sources

Determination

(Plastics-Determination of changes in colour and variations in properties after exposure to glass-filtered solar radiation, natural weathering or laboratory radiation sources)

Note: GB/T 15596-2021 Determination of color and property changes of plastics after glass filtration after exposure to solar radiation, natural climate or laboratory radiation sources

(ISO 4582:2017, IDT)

ASTM G24 Standard Method for Testing Sunlight Exposure Through Glass Filtration (Standard Practice for Conducting Exposures

to Daylight Filtered Through Glass)

3 Terms and Definitions

There are no terms and definitions that need to be defined in this document:

4 Principles

See Chapter 4 of GB/T 3681:1-2021:

5 devices

5:1 General Requirements

See 5:1 of GB/T 3681:1-2021:

When installed, the brackets used in Test Methods A and B shall be capable of providing the required inclination angle (see 7:1), and the test specimen shall be

The distance between any part and the ground or other obstacles should not be less than 0.5m: Specimen can be fixed directly on the support, or with suitable clamps

Clamped and fixed on the bracket: The fixing device should be installed firmly, but the stress exerted on the sample should be as small as possible, and it should be allowed as far as possible without restraint: