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GB/T 8433-2013

Replacing GB/T 8433-1998

Textiles – Test for Colour Fastness – Colour Fastness to Chlorinated Water (Swimming-Pool Water)

(ISO 105-E03:2010, MOD)

纺织品 色牢度试验 耐氯化水色牢度 (游泳池水)

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Foreword

This Standard was drafted as per the rules specified in GB/T 1.1-2009.

This Standard replaced GB/T 8433-1998 *Textiles - Tests for Colour Fastness - Colour Fastness to Chlorinated Water (Swimming-Pool Water)*; compared with GB/T 8433-1998, the major changes are as follows:

--- In Chapter 2 Normative References, add GB/T 6682 and FZ/T 01024; delete GB/T 6151-1997;

--- Divide the original Chapter 4 into two chapters, i.e. Chapter 4 Apparatus and Chapter 5 Reagents;

--- In Chapter 4 Apparatus, specify the containers for the test device, which is required to be glass container rather than stainless-steel container;

--- In Chapter 4 Apparatus, add the spectrophotometer (4.4) and analytical balance (4.5) to evaluate the color changes of the specimen;

--- Change Chapter 6 specimen dimension into $(40\pm 2)\text{mm}\times(100\pm 2)\text{mm}$; the parallel length into $(100\pm 2)\text{mm}$; and diameter into $(5\pm 2)\text{mm}$;

--- In 7.3 of Chapter 7 Operating Procedures, add the optional method for color change of the specimen evaluated by the instrument;

--- Add Clause e) to Chapter 8 Test Report; add instrument rating result and indicate the rating method to Clause c).

This Standard adopts the redrafting method to modify and use ISO 105-E03:2010 *Textiles - Test for Colour Fastness - Part E03: Colour Fastness to Chlorinated Water (Swimming-Pool Water)* (English Edition); The major differences between this Standard and ISO 105-E03:2010 are as follows:

--- Delete the foreword of the international standard;

--- In the Normative References, the international standards were replaced by corresponding national standards and industry standards; delete the quotation of ISO 105-A01;

--- Add the rating method to Clause e) in Chapter 8 Test Report.

This Standard was proposed by China National Textile and Apparel Council.

This Standard shall be under the jurisdiction of Basic Branch of National Technical Committee for Standardization of Textile (SAC/TC 209/SC 1).

Textiles – Test for Colour Fastness – Colour Fastness to Chlorinated Water (Swimming-Pool Water)

1 Scope

This Standard specifies the method for determining the available chlorine action of various colors of textiles against the concentration used by the disinfecting swimming-pool water.

This Standard specifies three different test conditions. The available chlorine with concentration 50mg/L and 100mg/L is used for swimsuits; while the available chlorine with concentration 20mg/L is used for bathrobes, towels, and etc.

2 Normative References

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this standard.

GB/T 250 Textiles - Tests for Colour Fastness - Grey Scale for Assessing Change in Colour (GB/T 250-2008, ISO 105-A02:1993, IDT)

GB/T 6682 Water for Analytical Laboratory Use - Specification and Test Methods (GB/T 6682-2008, ISO 3696:1987, MOD)

FZ/T 01024 Instrumental Assessment of Change in Colour for Determination of Grey Scale Rating (FZ/T 01024-1993, neq ISO 105-A05:1992)

3 Principles

Select one of three specified test conditions, use the chlorine-containing dilute solution with given concentration to treat the textile specimen, then dry it. Use gray scale or spectrophotometer to assess the color change of the specimen.

4 Apparatus

4.1 A suitable mechanical device consists of a water bath with a rotating shaft; such

Place excessive potassium iodide (KI) and hydrochloric acid (HCl) into 25.0mL of Solution 1; use starch as an indicator; use $c(\text{Na}_2\text{S}_2\text{O}_3)=0.1\text{mol/L}$ sodium thiosulfate solution to titrate free iodine.

Set the required sodium thiosulfate solution to be $V\text{mL}$.

Then per liter working solution with $\text{pH } 7.50\pm 0.05$ requires:

$\frac{705.0}{V}\text{mL}$ of Solution 1:

100mL of Solution 2;

500mL of Solution 3;

Dilute to 1L.

Before use, calibrate the pH value with a calibrated pH meter (4.2).

If necessary, use sodium hydroxide $c(\text{NaOH})=0.1\text{mol/L}$ or acetic acid $c(\text{CH}_3\text{COOH})=0.1\text{mol/L}$ to adjust.

5.3 Per liter 50mg of available chloride, sodium hypochlorite (NaClO) aqueous solution with $\text{pH } 7.50\pm 0.05$.

Prepare the working solution with $\text{pH } 7.50\pm 0.05$ as per the same procedures in 5.2;

however, Solution $\frac{705.0}{2V}\text{mL}$ is required.

5.4 Per liter 20mg of available chloride, sodium hypochlorite (NaClO) aqueous solution with $\text{pH } 7.50\pm 0.05$.

Prepare the working solution with $\text{pH } 7.50\pm 0.05$ as per the same procedures in 5.2;

however, Solution $\frac{705.0}{5V}$ is required.

5.5 Potassium dihydrogen phosphate (KH_2PO_4).

5.6 Disodium hydrogen phosphate dehydrate ($\text{Na}_2\text{HPO}_4\cdot 2\text{H}_2\text{O}$) or disodium hydrogen phosphate dodecahydrate ($\text{Na}_2\text{HPO}_4\cdot 12\text{H}_2\text{O}$).

5.7 Grade-III water (conforming to the provisions of GB/T 6682).

6 Specimen

6.1 For fabric specimen, take a specimen with dimension of $(40\pm 2)\text{mm}\times(100\pm 2)\text{mm}$.

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