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NATIONAL METROLOGY TECHNICAL SPECIFICATION OF THE

PEOPLE'S REPUBLIC OF CHINA

JJF 1947-2021

Calibration Specification for Platinum-Cobalt Colorimeters

铂-钴色度仪校准规范

(English Translation)

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Introduction

JJF 1071-2010 "Rules for the Compilation of National Metrology Calibration Standards", JJF 1001-2011 "General Metrology Terms and Definition" and JJF 1059.1-2012 "Measurement Uncertainty Evaluation and Representation" together constitute the support for the preparation of this specification the basic series of specifications.

This specification refers to ISO 6271:2015 "Platinum-Cobalt Grade Color for Transparent Liquids" (Clear Measurement requirements, the measurement unit adopts the platinum-cobalt chromaticity unit (Pt-CoUnit, PCU) in ISO 6271:2015.

This specification is published for the first time.

Calibration Specification for Platinum-Cobalt Colorimeters

1 Scope

This specification is applicable to platinum-cobalt color based on the principle of spectrophotometry and platinum-cobalt color within the measurement range of (0~500) Calibration of the meter.

2 Reference documents this specification cites the following documents.

GB/T 6682-2008 Specifications and test methods for water used in analytical laboratories ISO 6271:2015 Platinum-cobalt grading for color evaluation of transparent liquids (Clearliquids-Estimationof for dated references, only the dated version applies to this specification; for undated references the latest version (including all amendments) applies to this specification.

3 units of measure

The following definitions from ISO 6271:2015 apply to this specification.

Platinum-cobalt chromaticity unit Pt-CoUnit, PCU the platinum-cobalt color unit is a unit containing defined concentrations of platinum [as the chloroplatinum(IV) salt ion] and chlorine Solution color of cobalt(II) hexahydrate.

4 Overview

Platinum-cobalt colorimeter (hereinafter referred to as colorimeter) is a kind of colorimeter designed based on the principle of spectrophotometry it can be used to measure and grade the chromaticity or color of liquid chemical products, water quality, turpentine and other liquids.

Colorimeter is generally composed of light source, optical system, cuvettes, measurement chamber, photoelectric detection element and display unit.

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composition. It illuminates the sample to be tested through a light source, and the transmission spectrum of the liquid in the cuvette is converted into electrical energy by the photoelectric detection element.

signal, the spectral transmittance of the sample to be measured is measured, and then processed by electronic components or software to directly calculate the sample to be measured the platinum-cobalt chromaticity value of the product is displayed by the display unit.

5 Metrology characteristics

5.1 Compatibility of cuvettes when the resolution (PCU) is less than or equal to 1, the compatibility (PCU) is less than or equal to 1; when the resolution (PCU) is greater than 1, the compatibility should be Does not cause a change in the indication value.

5.2 Platinum-Cobalt Chromaticity Error not more than ±10%.

5.3 Repeatability

Not more than 2%FS.

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