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**Clear liquids — Estimation of colour by  
the platinum-cobalt scale —**

**Part 1:  
Visual method**

*Liquides clairs — Évaluation de la couleur au moyen de l'échelle platine-  
cobalt —*

*Partie 1: Méthode visuelle*



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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 6271-1 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 10, *Test methods for binders for paints and varnishes*, in collaboration with ASTM D 01.34, *Naval Stores*. It has been harmonized with ASTM D 1209-97, *Standard Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)*.

This first edition cancels and replaces ISO 6271:1997, which has been technically revised.

ISO 6271 consists of the following parts, under the general title *Clear liquids — Estimation of colour by the platinum-cobalt scale*:

- *Part 1: Visual method*
- *Part 2: Spectrophotometric method*

## Introduction

ISO 2211, *Liquid chemical products — Measurement of colour in Hazen units (platinum-cobalt scale)*, is not suitable for use in the paint industry.

ISO 6271-1 differs from ISO 2211 in respect to:

- preparation of the stock solution for colour matching (in one way only);
- checking of the stock solution;
- use of tubes with greater viewing depth to obtain a more distinct difference between successive colour standards;
- the single test procedure given is more accurate.

The term “platinum-cobalt colour” used here is preferred over the terms “Hazen colour” and “APHA colour”.

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# Clear liquids — Estimation of colour by the platinum-cobalt scale —

## Part 1: Visual method

### 1 Scope

This part of ISO 6271 specifies a method for estimating the colour, in Pt-Co units, of clear liquids.

It is applicable to clear liquids having colour characteristics similar to those of the reference platinum-cobalt scale.

### 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3696, *Water for analytical laboratory use — Specification and test methods*

ISO 15528, *Paints, varnishes and raw materials for paints and varnishes — Sampling*

### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

#### 3.1

##### **Pt-Co scale**

classification of the colour of a solution containing platinum, in the form of the hexachloroplatinate(IV) ion, and cobalt(II) chloride hexahydrate in specified concentrations

### 4 Principle

The colour of a sample of the product to be tested is compared with those of colour standards. The standard that most closely matches the colour of the sample is identified and the result is expressed in terms of Pt-Co units.

### 5 Reagents

During the test, use only reagents of recognized analytical grade and only water of at least grade 3 purity as defined in ISO 3696.

**5.1 Potassium hexachloroplatinate(IV)**,  $K_2PtCl_6$ .

**5.2 Cobalt(II) chloride hexahydrate**,  $CoCl_2 \cdot 6H_2O$ .

**5.3 Hydrochloric acid**, 38 % (by mass),  $\rho = 1,19$  g/ml.