International Standard ISO 3856/6

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION•МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ•ORGANISATION INTERNATIONALE DE NORMALISATION

Paints and varnishes — Determination of "soluble" metal content — Part 6: Determination of total chromium content of the liquid portion of the paint — Flame atomic absorption spectrometric method

Peintures et vernis — Détermination de la teneur en métaux «solubles» — Partie 6: Détermination de la teneur totale en chrome de la fraction liquide de la peinture — Méthode par spectrométrie d'absorption atomique dans la flamme

Second edition — 1984-11-01

UDC 667.6 : 543.422 : 546.76 **Ref. No. ISO 3856/6-1984 (E)**

Descriptors: paints, varnishes, printing inks, pigments, chemical analysis, determination of content, soluble matter, chromium, atomic absorption spectrometry.

Price based on 3 pages

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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 3856/6 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*.

ISO 3856/6 was first published in 1980. This second edition cancels and replaces the first edition, of which it constitutes a thorough revision.

Printed in Switzerland

Paints and varnishes — Determination of "soluble" metal content — Part 6: Determination of total chromium content of the liquid portion of the paint — Flame atomic absorption spectrometric method

0 Introduction

This International Standard is a part of ISO 3856, *Paints and varnishes — Determination of "soluble" metal content.*

1 Scope and field of application

This part of ISO 3856 describes a flame atomic absorption spectrometric (AAS) method for the determination of the total chromium content of the liquid portion of the paint, prepared in accordance with sub-clause 9.3 of ISO 6713 or other suitable International Standards.

The method is applicable to paints having total chromium contents in the liquid portion in the range of about 0,05 to 5 % (*m*/*m*).

Other methods can be used by agreement between the interested parties but this AAS method is the referee method in cases of dispute.

2 References

ISO 385/1, *Laboratory glassware — Burettes — Part 1: General requirements.*[1]

ISO 1042, *Laboratory glassware — One-mark volumetric flasks.*

ISO 3696, *Water for laboratory use — Specifications.*[2]

ISO 6713, *Paints and varnishes — Preparation of acid extracts from paints in liquid or powder form.*

3 Principle

Aspiration of the test solution into a dinitrogen monoxide/acetylene flame. Measurement of the absorption of the selected spectral line, emitted by a chromium hollow-cathode lamp or chromium discharge lamp, in the region of 357,9 nm.

4 Reagents and materials

During the analysis, use only reagents of recognized analytical grade and only water of at least grade 3 purity according to ISO 3696.

4.1 Hydrochloric acid, $c(HCl) = 0,07$ mol/l.

Use the hydrochloric acid, identical to that used for the preparation of the test solutions in accordance with ISO 6713. (See 6.2.)

4.2 Acetylene, commercial grade, in a steel cylinder.

4.3 Dinitrogen monoxide, commercial grade, in a steel cylinder.

4.4 Chromium, standard stock solution containing 100 mg of Cr per litre.

Either

a) transfer the contents of an ampoule of standard chromium solution containing exactly 0,1 g of Cr into a 1 000 ml one-mark volumetric flask, dilute to the mark with the hydrochloric acid (4.1) and mix well;

1) At present at the stage of draft. (Partial revision of ISO/R 385-1964.)

2) At present at the stage of draft.