

INTERNATIONAL
STANDARD

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**Binders for paints and varnishes —
Determination of the viscosity of industrial
cellulose nitrate solutions and
classification of such solutions**

*Liants pour peintures et vernis — Détermination de la viscosité
des solutions de nitrate de cellulose industrielles et classification
de ces solutions*



Reference number
ISO 14446:1999(E)

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.

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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.

International Standard ISO 14446 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 10, *Test methods for binders for paints and varnishes*.

Annex A forms a normative part of this International Standard.

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Binders for paints and varnishes — Determination of the viscosity of industrial cellulose nitrate solutions and classification of such solutions

1 Scope

This International Standard specifies a method of determining the viscosity of industrial cellulose nitrate, usually referred to as nitrocellulose, the nitrogen content of which can vary between 10,7 % by mass and 12,6 % by mass, depending on the type.

It also gives a classification system for industrial cellulose nitrate solutions (see annex A) which is based on viscosity measurements made using the method. The use of a standard procedure results in "standard" types and avoids classification differences which could be caused by the fact that there are many ways of determining viscosity and a wide variety of solvents available.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 760:1978, *Determination of water — Karl Fischer method (General method)*.

ISO 2811-1:1997, *Paints and varnishes — Determination of density — Part 1: Pycnometer method*.

ISO 2811-2:1997, *Paints and varnishes — Determination of density — Part 2: Immersed body (plummet) method*.

ISO 2811-3:1997, *Paints and varnishes — Determination of density — Part 3: Oscillation method*.

ISO 12058-1:1997, *Plastics — Determination of viscosity using a falling-ball viscometer — Part 1: Inclined-tube method*.

ISO 15528:—¹⁾, *Paints and varnishes — Sampling*.

3 Principle

The cellulose nitrate is dissolved in an acetone/water mixture at a concentration which will depend on the type of cellulose nitrate concerned. The density of the solution is determined using a pycnometer and the viscosity using a Höppler falling-ball viscometer. The dynamic viscosity of the solution is calculated from the results obtained.

¹⁾ To be published. (Revision of ISO 842:1984 and ISO 1512:1991)