International Standard

ISO 11908

Binders for paints and varnishes — Amino resins — General methods of test

Liants pour peintures et vernis — Résines aminoplastes — Méthodes générales d'essai

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Foreword

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This document was prepared by Technical Committee ISO/TC 35, *Paints and varnishes* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 139, *Paints and varnishes*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 11908:1996), which has been technically revised.

The main changes are as follows:

— CAS registry numbers have been added to the reagents used;

— the normative references have been updated.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Binders for paints and varnishes — Amino resins — General methods of test

1 Scope

This document specifies general test methods for amino resins and solutions of amino resins intended for use as binders in paints, varnishes and related products.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1523, *Determination of flash point — Closed cup equilibrium method*

ISO 2114, *Plastics (polyester resins) and paints and varnishes (binders) — Determination of partial acid value and total acid value*

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

ISO 3219 (all parts), *Rheology*

ISO 3251, *Paints, varnishes and plastics — Determination of non-volatile-matter content*

ISO 3679, *Determination of flash point – Method for flash no-flash and flash point by small scale closed cup tester*

ISO 4630, *Clear liquids — Estimation of colour by the Gardner colour scale*

ISO 6271, *Clear liquids — Estimation of colour by the platinum-cobalt colour scale*

ISO 11402:2004, *Phenolic, amino and condensation resins — Determination of free-formaldehyde content*

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.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
amino resin
synthetic resin resulting from the condensation of urea or melamine or derivatives such as benzoguanamine with formaldehyde

Note 1 to entry: These resins are often etherified with alcohols.

[SOURCE: ISO 4618:2023, 3.12]

4 Properties and test methods

Unless otherwise agreed, the properties measured and the test methods used shall be as given in Table 1.

Table 1 — Properties and test methods for amino resins

Property	Test method
Colour	ISO 6271 (Platinum-cobalt colour scale) or ISO 4630 (Gardner colour scale)
Viscosity	ISO 3219 (all parts)
Non-volatile matter [a]	ISO 3251
Flashpoint [a]	ISO 1523 or ISO 3679
Density	ISO 2811-1
Free-formaldehyde content	ISO 11402:2004, 4.3 (Sulfite procedure)
Compatibility with hydrocarbons (turbidity titration) [a]	Annex A
Acid value	ISO 2114
[a] For resin solutions only.	