
**Binders for paints and varnishes —
Epoxy resins — General methods of test**

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



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Foreword

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ISO 7142 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 CEN Technical Committee CEN/TC 139, *Paints and varnishes*.

This second edition cancels and replaces the first edition (ISO 7142:1984), which has been editorially revised and the normative references updated.

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

1 Scope

This International Standard specifies general methods of test for epoxy resins for use in paints, varnishes and similar products. It is also applicable to those solutions made from epoxy resins that are intended for use as binders for paints and varnishes.

The test methods to be applied to an individual epoxy resin shall be the subject of agreement between the interested parties.

The test methods described in this International Standard are not intended for epoxy esters (see Note to 3.1).

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 385, *Laboratory glassware — Burettes*

ISO 648, *Laboratory glassware — One-mark pipettes*

ISO 1523, *Determination of flash point — Closed cup equilibrium method*

ISO 2431, *Paints and varnishes — Determination of flow time by use of flow cups*

ISO 3001, *Plastics — Epoxy compounds — Determination of epoxy equivalent*

ISO 3146, *Plastics — Determination of melting behaviour (melting temperature or melting range) of semi-crystalline polymers by capillary tube and polarizing-microscope methods*

ISO 3219, *Plastics — Polymers/resins in the liquid state or as emulsions or dispersions — Determination of viscosity using a rotational viscometer with defined shear rate*

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

ISO 3679, *Determination of flash point — Rapid equilibrium closed cup method*

ISO 4615, *Plastics — Unsaturated polyesters and epoxide resins — Determination of total chlorine content*

ISO 4625-1, *Binders for paints and varnishes — Determination of softening point — Part 1: Ring-and-ball method*

ISO 4625-2, *Binders for paints and varnishes — Determination of softening point — Part 2: Cup-and-ball method*

ISO 4630-1, *Clear liquids — Estimation of colour by the Gardner colour scale — Part 1: Visual method*

ISO 4630-2, *Clear liquids — Estimation of colour by the Gardner colour scale — Part 2: Spectrophotometric method*

ISO 6271-1, *Clear liquids — Estimation of colour by the platinum-cobalt scale — Part 1: Visual method*

ISO 6271-2, *Clear liquids — Estimation of colour by the platinum-cobalt scale — Part 2: Spectrophotometric method*

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

ISO 21627-2, *Plastics — Epoxy resins — Determination of chlorine content — Part 2: Easily saponifiable chlorine*

3 Terms and definitions

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

3.1

epoxy resin

synthetic resin containing epoxy groups generally prepared from epichlorhydrin and a bisphenol

[ISO 4618:2006]

NOTE Epoxy esters obtained by reacting materials containing epoxy groups with fatty acids or oils which dry by oxidation are not covered by this International Standard.

4 Sampling

Take a representative sample of the product to be tested, as described in ISO 15528.

5 Test methods

See Table 1.

6 Test report

The test report shall contain at least the following information:

- a) the type and identification of the product tested;
- b) a reference to this International Standard (ISO 7142:2007);
- c) the results of the tests, and the methods used;
- d) any deviation, by agreement or otherwise, from the procedures specified;
- e) the dates of the tests.