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**Binders for paints and varnishes —  
Rosin — Sampling and sample  
preparation for colour measurement**

*Liants pour peintures et vernis — Colophane — Échantillonnage et  
préparation des échantillons pour le mesurage de la couleur*

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Published in Switzerland

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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 13632 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 10, *Test methods for binders for paints and varnishes*.

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# Binders for paints and varnishes — Rosin — Sampling and sample preparation for colour measurement

## 1 Scope

This International Standard specifies a procedure for sampling of rosin and rosin derivatives from

- drums,
- the molten/liquid form,
- flakes, pellets or pastilles

and preparation of the samples for colour measurement. The method to be used for the colour measurement is specified in other standards. The colour of the rosin can be measured with neat rosin or rosin in solution.

The two most commonly used colour-measurement methods are those based on the USDA<sup>1)</sup> scale and the Gardner colour scale. Annex A provides information on the correlation between these two scales.

## 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 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*

ASTM D509, *Standard Test Methods of Sampling and Grading Rosin*

## 3 Sampling and sample preparation

### 3.1 Procedure for Gardner colour measurement of neat rosin

The sample to be tested shall consist of freshly broken lumps and shall be free of dust and finely divided material.

Melt a sufficient amount of material in a clean container using an oven, hotplate, heat gun, sand bath or oil bath in an inert-gas atmosphere, taking care to avoid overheating. Stir slowly, avoiding the formation of bubbles. Melt the sample completely, but do not heat it above the temperature necessary for the sample to pour readily. The time from the beginning of heating to pouring the sample shall not exceed 15 min.

Pour the molten sample into a test tube or cuvette and, while the sample is still molten, insert the tube or cuvette into the measurement instrument and measure the colour.

### 3.2 Procedure for Gardner colour measurement of rosin in solution

The sample to be tested shall consist of freshly broken lumps and shall be free of dust and finely divided material.

Prepare a 50,0:50,0 (by mass) solution of the test material in analytical-grade toluene in a clean beaker or flask. Stir or shake gently at room temperature until the rosin is dissolved and pour the solution into a test tube or cuvette.

1) USDA — United States Department of Agriculture.

Insert the test tube or cuvette into the measurement instrument and measure the colour. The time from the beginning of sample preparation to pouring the sample shall not exceed 15 min.

### **3.3 Procedure for USDA colour**

The sample to be tested shall consist of freshly broken lumps and shall be free of dust and finely divided material.

Melt a sufficient amount of material in a small beaker, using an oven, hotplate, heat gun, sand bath or oil bath in an inert-gas atmosphere, taking care to avoid overheating. Stir slowly, avoiding the formation of bubbles. Melt the sample completely, but do not heat it above the temperature necessary for the sample to pour readily.

Prepare a sample for testing by pouring the molten material into a mould measuring 22,2 mm in the direction in which it will be viewed during colour measurement. The time from the beginning of heating to pouring the sample shall not exceed 15 min.

## **4 Colour measurement**

Measure the Gardner colour as described in ISO 4630-1 or ISO 4630-2 or the USDA colour as described in ASTM D509.

## **5 Test report**

In addition to the information requested in the test reports given in ISO 4630-1, ISO 4630-2 and ASTM D509, state the method of sample preparation.

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