



**SLOVENSKI STANDARD**  
**oSIST prEN ISO 8130-6:2020**  
**01-november-2020**

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**Praškasti premazi - 6. del: Določanje časa želiranja termoreaktivnih praškastih premazov pri dani temperaturi (ISO/DIS 8130-6:2020)**

Coating powders - Part 6: Determination of gel time of thermosetting coating powders at a given temperature (ISO/DIS 8130-6:2020)

Pulverlacke - Teil 6: Bestimmung der Gelzeit von wärmehärtenden Pulverlacken bei einer gegebenen Temperatur (ISO/DIS 8130-6:2020)

Poudres pour revêtement - Partie 6: Détermination du temps de gélification à une température donnée de poudres thermodurcissables (ISO/DIS 8130-6:2020)

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**Ta slovenski standard je istoveten z: prEN ISO 8130-6**

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**ICS:**

87.040

Barve in laki

Paints and varnishes

**oSIST prEN ISO 8130-6:2020**

**en,fr,de**

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# DRAFT INTERNATIONAL STANDARD

## ISO/DIS 8130-6

ISO/TC 35/SC 9

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## Coating powders —

### Part 6: Determination of gel time of thermosetting coating powders at a given temperature

*Poudres pour revêtement —**Partie 6: Détermination du temps de gélification à une température donnée de poudres thermodurcissables*

ICS: 87.040

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CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

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## ISO/DIS 8130-6:2020(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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 9, *General test methods for paints and varnishes*.

This second edition cancels and replaces the first edition (ISO 8130-6:1992) and ISO 8130-6:1992/AMD.1:1998, which has been technically revised. The main changes compared to the previous edition are as follows:

- a) the use of a release agent has been deleted;
- b) a flat heating block without a spherical depression is added as a second option;
- c) the duplicate determination has been changed to single determination;
- d) a note on measurement of coating powders with ultra-short gel times (less than 15 s) has been added to [Clause 8](#);
- e) the repeatability data has been deleted because it has to be validated;
- f) Amendment 1:1998 has been incorporated in the text;
- g) the text has been editorially revised and the normative references have been updated.

A list of all parts in the ISO 8130, *Coating powders*, series can be found on the ISO website.

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](http://www.iso.org/members.html).

# Coating powders —

## Part 6:

# Determination of gel time of thermosetting coating powders at a given temperature

## 1 Scope

This document specifies a method for determining the time for a thermosetting coating powder to gel at a specified temperature. A method is described for checking batch to batch variation and for the quality control of a given coating powder.

The gel time determined by this method is not directly related to the time for a coating powder to cure in practical applications.

The method is not applicable to coating powders with ultra-short gel times (less than 15 s).

## 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 8130-14, *Coating powders — Part 14: Vocabulary*,  
<https://standards.iteh.ai/catalog/standards/sist/c137b4ae-27e6-4a62-980b-31056db3533a/osist-pr-en-iso-8130-6-2020>

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

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 8130-14 and the following apply.

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

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

### 3.1

#### gel time

time taken for a specified volume of coating powder to become non-deformable, under specified conditions, after melting

## 4 Principle

A test portion of a coating powder is heated to a specified temperature in a depression of a heating block. The time at which threads can no longer be pulled from the molten product is determined.





**6.2 Temperature-measuring device**, of sufficient range, reading to 1 °C.

**6.3 Measuring spoon**, of capacity (0,25 ± 0,01) ml, for transferring the test portion to the depression in the heating block.

**6.4 Timer**, accurate to 1 s.

**6.5 Stirrer**, of very low heat capacity and of suitable size.

A stirring needle with a round pin-head, diameter 1 mm, and attached to an insulating handle may be used.

NOTE A wooden stirrer has also been found to be satisfactory.

**6.6 Scraper**, made of a material softer than that of the heating block, for removing the test material from the heating block without scratching its surface.

## 7 Sampling

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

## 8 Procedure

Carry out the test at (180 ± 1) °C unless otherwise specified or agreed between the interested parties.

Place the heating block (6.1) in a draught free environment. Raise the temperature of the heating block to the specified temperature and allow it to stabilize for at least 10 min.

Check that the surface temperature of the heating block has reached the required temperature. A small portion of suitable material (5.1) that melts at the required temperature may be used.

NOTE A calibrated surface contact thermometer can also be used to verify the temperature in the depression.

By means of the measuring spoon (6.3), transfer a test portion of 0,25 ml of the product into the depression in the heating block and, unless otherwise agreed or specified, start the timer (6.4) immediately after all the powder has melted and commence stirring the material.

Stir the molten material in small circular movements with the stirrer (6.5). Upon an increase of viscosity, maintain the overall stirring action, then lift the stirring device every 2 s to 3 s to about 10 mm away from the molten material. When the threads thus formed become brittle, such that they break and can no longer be drawn from the molten material, stop the timer.

Record the time to the nearest 1 s. This is the gel time.

Immediately scrape the test material from the heating block, using the scraper (6.6) and taking care not to damage the surface.

## 9 Precision

Precision data are currently not available.

## 10 Test report

The test report shall contain at least the following information:

a) all details necessary to identify the product tested;

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- b) a reference to this document, i.e. ISO 8130-6:—;
- c) the test temperature;
- d) the result of the test as indicated in [Clause 8](#);
- e) any deviation from the test method specified;
- f) any unusual features (anomalies) observed during the test.
- g) the date of the test.

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