

INTERNATIONAL STANDARD

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Coating powders —

Part 1:

Determination of particle size distribution by
sieving

Poudres pour revêtement —

Partie 1: Détermination de la distribution granulométrique par tamisage



Reference number
ISO 8130-1:1992(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.

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 8130-1 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Sub-Committee SC 9, *General test methods for paints and varnishes*.

ISO 8130 consists of the following parts, under the general title *Coating powders*:

- *Part 1: Determination of particle size distribution by sieving*
- *Part 2: Determination of density by gas comparison pyknometer (referee method)*
- *Part 3: Determination of density by liquid displacement pyknometer*
- *Part 4: Calculation of lower explosion limit*
- *Part 5: Determination of flow properties of a powder/air mixture*
- *Part 6: Determination of gel time of thermosetting coating powders at a given temperature*
- *Part 7: Determination of loss of mass on stoving*
- *Part 8: Assessment of the storage stability of thermosetting powders*

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— *Part 9: Sampling*

Annex A forms an integral part of this part of ISO 8130.

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Coating powders —

Part 1:

Determination of particle size distribution by sieving

1 Scope

This part of ISO 8130 specifies a method for the determination of particle size distribution by sieving. It discriminates between particles in the size range from 32 μm to 300 μm .

The method can also be used as an abbreviated procedure, i.e. for the determination of the residue on one single sieve only ("go"/"no go" test).

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 8130. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 8130 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 565:1990, *Test sieves — Metal wire cloth, perforated metal plate and electroformed sheet — Nominal sizes of openings*.

ISO 842:1984, *Raw materials for paints and varnishes — Sampling*.

3 Apparatus

3.1 Test sieves, circular with a sieving area having a diameter of 200 mm. The frame and the mesh of the test sieves shall be of metal. The range of nominal mesh apertures shall be between 32 μm and 300 μm and shall comply with the requirements of

ISO 565 for supplementary sizes (see annex A). The test sieve shall be covered with a transparent lid.

The choice of mesh apertures (see annex A) will depend on the circumstances. If the approximate particle size distribution of a sample is known, it is necessary to use only those test sieves that are appropriate to that particle size range. It is also permissible to restrict the choice of test sieves to those that give sufficient data for a specific purpose. Appropriate details shall be agreed on between the interested parties.

3.2 Air-jet sieve apparatus (see figure 1), consisting of a cylindrical casing which contains the test sieve (3.1). In the base of the casing shall be an outlet (to which an extractor fan is connected), and an air inlet to permit the injection of air.

The air inlet is connected to a jet rotating at 20 r/min to 25 r/min and consisting of a slot-shaped nozzle arranged radially beneath and very close to the sieve mesh. When the jet rotates, it blows air continuously through the mesh, preventing the coating powder particles from blocking the test sieve. The air is extracted through the outlet, drawing the finer particles through the sieve.

The flow of air is controlled by adjusting a slot at the outlet.

3.3 Timer (e.g. stopwatch), recording to the nearest 1 s or better. It may be with a switch for disconnecting the motor from the sieve apparatus (3.2).

3.4 Balance, capable of weighing to 0,01 g.

3.5 Mallet, of light construction, with plastics head, suitable for tapping the apparatus to dislodge deposited powder.