
**General methods of test for pigments and
extenders —**

Part 17:
**Comparison of lightening power of white
pigments**

Méthodes générales d'essai des pigments et matières de charge —

Partie 17: Comparaison du pouvoir éclaircissant des pigments blancs



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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 3.

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 part of ISO 787 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 787-17 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 2, *Pigments and extenders*.

This second edition cancels and replaces the first edition (ISO 787-17:1973), of which it constitutes a minor (editorial) revision.

ISO 787 consists of the following parts, under the general title *General methods of test for pigments and extenders*:

- Part 1: Comparison of colour of pigments
- Part 2: Determination of matter volatile at 105 °C
- Part 3: Determination of matter soluble in water — Hot extraction method
- Part 4: Determination of acidity or alkalinity of the aqueous extract
- Part 5: Determination of oil absorption value
- Part 7: Determination of residue on sieve — Water method — Manual procedure
- Part 8: Determination of matter soluble in water — Cold extraction method
- Part 9: Determination of pH value of an aqueous suspension
- Part 10: Determination of density — Pyknometer method
- Part 11: Determination of tamped volume and apparent density after tamping
- Part 13: Determination of water-soluble sulphates, chlorides and nitrates
- Part 14: Determination of resistivity of aqueous extract
- Part 15: Comparison of resistance to light of coloured pigments of similar types
- Part 16: Determination of relative tinting strength (or equivalent colouring value) and colour on reduction of coloured pigments — Visual comparison method
- Part 17: Comparison of lightening power of white pigments
- Part 18: Determination of residue on sieve — Mechanical flushing procedure
- Part 19: Determination of water-soluble nitrates (Salicylic acid method)
- Part 21: Comparison of heat stability of pigments using a stoving medium
- Part 22: Comparison of resistance to bleeding of pigments

- *Part 23: Determination of density (using a centrifuge to remove entrained air)*
- *Part 24: Determination of relative tinting strength of coloured pigments and relative scattering power of white pigments — Photometric methods*
- *Part 25: Comparison of the colour, in full-shade systems, of white, black and coloured pigments — Colorimetric method*

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General methods of test for pigments and extenders —

Part 17:

Comparison of lightening power of white pigments

1 Scope

This part of ISO 787 specifies a general method of test for comparing the lightening (reducing) power of a white pigment with the lightening power of an agreed sample of the same type.

Two procedures (A and B) are described. Procedure A is quicker than procedure B and is suitable for testing one sample of pigment; procedure B is better for testing several samples, and especially if a pigment of unknown lightening power is being tested.

NOTE When this general method is applicable to a given pigment, a cross-reference to it will simply be included in the International Standard relating to that pigment, with a note of any detailed modification which may be needed in view of the special properties of the pigment in question. Only when this general method is not applicable to a particular pigment will a special method for comparison of lightening power of white pigments be specified.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 787. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 787 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 788, *Ultramarine pigments for paints*

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

3 Reagent

3.1 Blue paste, with the following composition:

- castor oil, medicinal quality: 500 g
- precipitated calcium sulfate, $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$: 475 g
- ultramarine blue complying with ISO 788: 5 g
- treated natural earth¹⁾: 20 g

The paste shall be prepared as follows:

Mix the treated natural earth in a beaker with sufficient of the castor oil to give a uniform paste and then gradually stir in the remaining castor oil. Heat the mixture so obtained to a temperature of 50 °C and, after maintaining this temperature for about 15 min, stir in the ultramarine blue and calcium sulfate, adding them in small amounts.

1) A prepared bentonite is a suitable material.