BSI

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ISO 787/16-1986

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[Tinting strength — visual]

British Standard Methods for testing pigments for paints

Part A4. Determination of the relative tinting strength and colour on reduction of coloured pigments using visual comparison

[ISO title: General methods of test for pigments and extenders — Part 16 : Determination of relative tinting strength (or equivalent colouring value) and colour on reduction of coloured pigments — Visual comparison method]

Méthodes d'essai des pigments dans les peintures
Partie A4. Détermination du pouvoir colorant relatif et de la couleur dégradée des pigments colorés par comparaison visuelle

Verfahren zur Prüfung von Pigmenten für Anstrichstoffe
Teil A4. Bestimmung der relativen Farbstärke (oder des Färbeäquivalents) und der Farbe in Weißaufhellung von Buntpigmenten mit Hilfe eines visuellen Vergleichsverfahrens

This Part should be read in conjunction with the General Introduction to BS 3483 issued separately.

National foreword

This revision of Part A4 of BS 3483 has been prepared under the direction of the Pigments, Paints and Varnishes Standards Committee. It is identical with ISO 787/16-1986 'General methods of test for pigments and extenders — Part 16 : Determination of relative tinting strength (or equivalent colouring value) and colour on reduction of coloured pigments — Visual comparison method' published by the International Organization for Standardization (ISO). This revision supersedes BS 3483 : Part A4 : 1974, which is withdrawn.

BS 3483 : Part A4 was first published in 1974 and this first revision brings the standard into line with international agreements by implementing the ISO standard as an identical British Standard. The main change in this edition is that the determination is carried out using a binder based either on an alkyd resin or on a urethane-modified linseed oil.

It has been assumed in the drafting of this British Standard that the executions of its provisions will be entrusted to appropriately qualified and experienced people.

Terminology and conventions. The text of the international standard has been approved as suitable for publication as a British Standard without deviation. Some terminology and certain conventions are not identical with those used in British Standards; attention is drawn especially to the following.

The comma has been used as a decimal marker. In British Standards it is current practice to use a full point on the baseline as the decimal marker.

Wherever the words 'International Standard' appear, referring to this standard, they should be read as 'British Standard', 'this part of ISO 787' should be read as 'this Part of BS 3483', and 'ISO 787/16' should be read as 'BS 3483 : Part A4'.

British Standards Institution

Cross-references

International standard	Corresponding British Standard
ISO 591-1977	BS 1851 : 1978 Specification for titanium dioxide pigments for paints (Identical)
ISO 787/24-1985*	BS 3483 Methods for testing pigments for paints Part A6 : 1988 Determination of relative tinting strength of coloured pigments and relative scattering power of white pigments using a photometer (Identical)
ISO 842-1984	BS 4726 : 1986 Methods for sampling raw materials for paints and varnishes (Identical)
ISO 1524-1983	BS 3900 Methods of test for paints Part C6 : 1983 Determination of fineness of grind (Identical)
ISO 3219-1977	BS 2782 Methods of testing plastics Method 730B : 1978 Determination of the viscosity of polymers in the liquid, emulsified or dispersed state using a rotational viscometer working at a defined shear rate (Identical)
ISO 3262-1975	BS 1795 : 1976 Specification for extenders for paints (Identical)
ISO 3668-1976	BS 3900 Methods of test for paints Part D1 : 1978 Visual comparison of the colour of paints (Identical)
ISO 3682-1983	BS 6782 Binders for paints Part 3 : 1987 Method for determination of acid value (titrimetric method) (Identical)
ISO 4629-1978	Part 4 : 1987 Method for determination of hydroxyl value (titrimetric method) (Identical)

Additional information. In order to carry out some of the tests described in this standard it is necessary for a reference sample to be supplied or agreed by the parties concerned (see clause **4**). It is also necessary to agree supplementary information (see clause **0**) before commencing the comparison.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

*For information only.

0 Introduction

This document is a part of ISO 787, *General methods of test for pigments and extenders.*

This revision of ISO 787/16 has been carried out to align the presentation and procedures with those given in ISO 787/24, which describes a photometric method for comparing relative tinting strength and colour on reduction of coloured pigments. The title has been amended to differentiate between this part of ISO 787 and ISO 787/24.

The degree of development of tinting strength of a coloured pigment is dependent on the amount of work done in the preparation of the dispersion, so that in determining the relative tinting strengths of two coloured pigments it is necessary for the comparison to be carried out at the level of maximum development. In this method, which uses an automatic muller, the development of tinting strength is influenced by the force applied, the number of revolutions, the binder, the volume of the mix, and the rheology of the mix. The preliminary test described in 8.2 is used to establish the conditions under which a practical maximum of tinting strength may be obtained on the automatic muller. When these conditions are known for a particular pigment, the preliminary test is unnecessary and the procedure described in 8.3 to 8.5 is followed directly.

The complete test procedure consists of four parts:

— determination of the conditions for the preparation of the dispersion of the coloured pigment, and determination of the ratio of coloured pigment to white pigment (see 8.2);

— preparation of the dispersion of the coloured pigment (see 8.3);

— mixing of the dispersions of coloured pigment and white pigment (see 8.4);

— comparison of the colour on reduction of the two mixtures, one from the test sample and the other from the agreed reference pigment (see 8.5).

The method described is intended as a referee method. It is realized that other binders and white pigments may be used for control purposes in laboratories or by agreement between the interested parties.

For any particular application, the method of test described in this International Standard needs to be completed by the following supplementary information. This information should be derived, in part or totally, from an (inter)national standard or other document related to the product under test or, if appropriate, should be agreed between the interested parties.

a) The binder that should be used (see 5.1).

b) The volume (which should be about 2 ml) of the mix of pigment and binder.

c) The ratio of pigment to binder.

d) The ratio of coloured pigment to white pigment.

e) The force (which should be the maximum available) that should be applied to the upper plate of the automatic muller.

f) The number of revolutions of the automatic muller to be used.

1 Scope and field of application

This part of ISO 787 describes a general method of test for comparing the tinting strength and colour on reduction of two similar coloured pigments, the results being expressed either as "relative tinting strength" or as "equivalent colouring value".

ISO 787/24 describes a general method of test for determining the relative tinting strength of coloured pigments using a photometric method.

NOTES

1 When this general method is applicable to a given pigment, only a cross-reference to it should be included in the International Standard relating to that pigment, indicating any detailed modification which