

BRITISH STANDARD

Instrumental colour measurement of textiles – Method

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Foreword

Publishing information

This British Standard was published by BSI and came into effect on 10 February 2006. It was entrusted by Technical Committee TCI/81, Colour fastness and colour measurement, to Working Group 3 of the Colour Measurement Committee of the Society of Dyers and Colourists. A list of organizations represented on this committee can be obtained on request to its secretary.

Information about this document

Colour measurement of textiles has become increasingly important. Errors in colour measurement are usually caused by either a non-representative specimen being measured or incorrect or inconsistent presentation of the specimen to the measuring instrument.

This standard is intended to provide procedures for the preparation and presentation of all types of textile materials in order to enable their colour to be measured consistently and reproducibly.

The procedures may be used in the determination of:

- a) the absolute colour specification of a single specimen (Notes 1, 2 and 3) or of a number of specimens to be used together in the construction of a match prediction database;
- b) the colour difference between areas of a single specimen (Note 4);
- c) the colour difference between specimens (Note 4)
- d) colour formulations and colour corrections by computer match prediction.

NOTE 1 The method may be used in defining and measuring the colours associated with specifications such as BS 3510, BS 381C, BS 5455, BS 6341 and BS EN 471.

NOTE 2 The recommended method for calculating the absolute colorimetric values of a coloured specimen is the CIE 1976 $L^*a^*b^*$ (CIELAB) equation (see Publication CIE 15).

NOTE 3 The recommended method for calculating the whiteness values of a white specimen is the CIE whiteness equation (see Publication CIE 15).

NOTE 4 The recommended method for calculating the colour difference within a single specimen or between specimens measured under identical conditions is the CMC (l:c) equation given in BS EN ISO 105-J03, which provides a numerical value ΔE [the total colour difference], which quantifies the perceptibility or the acceptability of the colour match. The direction of the colour difference is given by the components ΔL , ΔC and ΔH .

NOTE 5 The symbol Δ (for difference) is often replaced by D, giving DE, DL, DC and DH.

Presentational conventions

The provisions in this standard are presented in roman (i.e. upright) type. Its recommendations are expressed in sentences in which the principal auxiliary verb is “shall”.

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

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