

# INTERNATIONAL STANDARD

**ISO**  
**105-A05**

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## **Textiles — Tests for colour fastness —**

### **Part A05:**

Instrumental assessment of change in colour  
for determination of grey scale rating

*Textiles — Essais de solidité des teintures —*

*Partie A05: Évaluation instrumentale de la dégradation pour la  
détermination du degré de l'échelle de gris*



Reference number  
ISO 105-A05:1996(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 105-A05 was prepared by Technical Committee ISO/TC 38, *Textiles*, Subcommittee SC 1, *Tests for coloured textiles and colorants*.

ISO 105 was previously published in thirteen "parts", each designated by a letter (e.g. "Part A"), with publication dates between 1978 and 1985. Each part contained a series of "sections", each designated by the respective part letter and by a two-digit serial number (e.g. "Section A01"). These sections are now being republished as separate documents, themselves designated "parts" but retaining their earlier alphanumeric designations. A complete list of these parts is given in ISO 105-A01.

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# Textiles — Tests for colour fastness —

## Part A05:

### Instrumental assessment of change in colour for determination of grey scale rating

#### 1 Scope

This part of ISO 105 specifies an instrumental method for assessing the change in colour of a test specimen in comparison to an identical untreated reference, and the calculations undertaken to convert the instrumental measurements into a grey scale rating.

This method is intended as an alternative to the many national methods for visual evaluation of the effect of a colour fastness test on any textile material.

NOTE 1 There may be a difference between instrumental and visual assessments of specimens due to fluorescence, and/or other factors.

#### 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 105. 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 105 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 105-J03:1995, *Textiles — Tests for colour fastness — Part J03: Calculation of colour differences*.

CIE Publication No. 5.2, *Colorimetry*, 2nd ed., 1986.<sup>1)</sup>

#### 3 Principle

The colour of the specimen which has been subjected to the colour fastness test and the colour of an identical untreated specimen are measured instrumentally. The CIELAB coordinates for lightness  $L^*$ , chroma  $C_{ab}^*$  and hue  $h_{ab}$  are determined for both specimens, and the CIELAB differences  $\Delta L^*$ ,  $\Delta C_{ab}^*$  and  $\Delta H_{ab}^*$  are calculated and converted to a grey scale rating by means of a series of equations.

1) Available from the CIE Central Bureau, Kegelgasse 27, A-1030 Vienna, Austria.