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International Standard



105/Z

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

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**Textiles — Tests for colour fastness —  
Part Z: Colorant characteristics**

*Textiles — Essais de solidité des teintures — Partie Z: Caractéristiques des colorants*

**First edition — 1978-12-15**

Updated and reprinted — 1982-09-01

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**UDC 677.016.47**

**Ref. No. ISO 105/Z-1978 (E)**

**Descriptors :** textiles, dyes, tests, colour fastness, visual inspection, dyeing tests, wool, potassium dichromates, metals, iron sulphates, copper sulphates, ammonium sulphate.

Price based on 2 pages

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 105/Z was developed by Technical Committee ISO/TC 38, *Textiles*.

It was submitted directly to the ISO Council, in accordance with sub-clause 5.10.1 of part 1 of the Directives for the technical work of ISO.

This part of ISO 105 cancels and replaces group Z of ISO 105-1978, originally published as parts 13 and 14 of ISO Recommendation R 105/I-1959.

NOTE — International Standard ISO 105 is presented in the form of parts. Each of these parts corresponds to a group and is split up into its different component sections. This form facilitates the replacement of existing sections by successive editions as necessary.

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## Textiles — Tests for colour fastness

# Z01 Colour fastness to metals in the dye-bath : Chromium salts

### 1 SCOPE AND FIELD OF APPLICATION

This method is intended for determining the effect on the colour of a dye, of dyeing in the presence of hexavalent chromium salts. It is applicable to wool. An alternative method is specified in 6.3 to provide a milder test suitable for assessing the effect of chromium salts in such concentrations as might be found when shading.

### 2 PRINCIPLE

The difference in colour between dyeings made with and without potassium dichromate is assessed with the grey scale.

### 3 REFERENCES

ISO 105 :

Section A01, *General principles of testing.*

Section A02, *Grey scale for assessing change in colour.*

### 4 APPARATUS AND REAGENTS

**4.1 Two pieces of undyed light wool cloth** of a size suitable for laboratory dyeing.

**4.2 Two dye-baths** and solutions usual for the dye.

**4.3 Potassium dichromate** ( $K_2Cr_2O_7$ ), 10 g/l solution.

**4.4 Grey scale for assessing change in colour** (see clause 3).

### 5 TEST SPECIMENS

See 4.1.

### 6 PROCEDURE

**6.1** Make two dyeings of the dye at the standard depth of colour on the wool cloth using the normal method for the dye under examination at a liquor ratio of 40 : 1.

**6.2 Method 1.** On completion of the dyeing, add to one of the dye-baths sufficient potassium dichromate solution to give 1 % of  $K_2Cr_2O_7$  on the mass of the wool. Maintain both baths at the boil for a further 60 min.

**6.3 Method 2.** On completion of the dyeing, add to one of the dye-baths sufficient potassium dichromate solution to give 0,2 % of  $K_2Cr_2O_7$  on the mass of the wool. Maintain both baths at the boil for a further 60 min.

**6.4** Compare the colour of the dyeing made in the presence of potassium dichromate with that of the dyeing made in its absence and assess the difference with the grey scale.

### 7 TEST REPORT

Report the dye used, the method and the strength of dyeing and the numerical rating of the change in colour.

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