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# International Standard



# 105/F

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## **Textiles — Tests for colour fastness — Part F : Standard adjacent fabrics**

*Textiles — Essais de solidité des teintures — Partie F : Tissus témoins*

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## 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/F was developed by Technical Committee ISO/TC 38, *Textiles*.

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.

Sections F02, F03, F04, F05 and F06, contained in this second edition of part F of ISO 105, were circulated to the member bodies in December 1979 and complete section F01-1978.

This part of ISO 105 cancels and replaces group F of ISO 105-1978.

## Contents of ISO 105

- ISO 105/A Textiles — Tests for colour fastness —  
Part A : General principles**
- A01** General principles of testing
  - A02** Grey scale for assessing change in colour
  - A03** Grey scale for assessing staining
- ISO 105/B Textiles — Tests for colour fastness —  
Part B : Colour fastness to light and weathering**
- B01** Colour fastness to light : Daylight
  - B02** Colour fastness to light : Xenon arc
  - B03** Colour fastness to weathering : Outdoor exposure
  - B04** Colour fastness to weathering : Xenon arc
  - B05** Detection and assessment of photochromism
- ISO 105/C Textiles — Tests for colour fastness —  
Part C : Colour fastness to washing and laundering**
- C01** Colour fastness to washing : Test 1
  - C02** Colour fastness to washing : Test 2
  - C03** Colour fastness to washing : Test 3
  - C04** Colour fastness to washing : Test 4
  - C05** Colour fastness to washing : Test 5
  - C06** Colour fastness to domestic and commercial laundering
- ISO 105/D Textiles — Tests for colour fastness —  
Part D : Colour fastness to dry cleaning**
- D01** Colour fastness to dry cleaning
  - D02** Colour fastness to rubbing : Organic solvents
- ISO 105/E Textiles — Tests for colour fastness —  
Part E : Colour fastness to aqueous agencies**
- E01** Colour fastness to water
  - E02** Colour fastness to sea water
  - E03** Colour fastness to chlorinated water (swimming-bath water)
  - E04** Colour fastness to perspiration
  - E05** Colour fastness to spotting : Acid
  - E06** Colour fastness to spotting : Alkali
  - E07** Colour fastness to spotting : Water
  - E08** Colour fastness to water : Hot water
  - E09** Colour fastness to potting
  - E10** Colour fastness to decatizing
  - E11** Colour fastness to steaming
  - E12** Colour fastness to milling : Alkaline milling
  - E13** Colour fastness to acid-felting : Severe
  - E14** Colour fastness to acid-felting : Mild
- ISO 105/F Textiles — Tests for colour fastness —  
Part F : Standard adjacent fabrics**
- F01** Specification for standard adjacent fabric : Wool
  - F02** Specification for standard adjacent fabric : Cotton and viscose
  - F03** Specification for standard adjacent fabric : Polyamide
  - F04** Specification for standard adjacent fabric : Polyester
  - F05** Specification for standard adjacent fabric : Acrylic
  - F06** Specification for standard adjacent fabric : Silk
- ISO 105/G Textiles — Tests for colour fastness —  
Part G : Colour fastness to atmospheric contaminants**
- G01** Colour fastness to nitrogen oxides
  - G02** Colour fastness to burnt gas fumes
  - G03** Colour fastness to ozone in the atmosphere

- ISO 105/J Textiles — Tests for colour fastness —**  
**Part J : Measurement of colour and colour differences**  
**J01** Method for the measurement of colour and colour differences
- ISO 105/N Textiles — Tests for colour fastness —**  
**Part N : Colour fastness to bleaching agencies**  
**N01** Colour fastness to bleaching : Hypochlorite  
**N02** Colour fastness to bleaching : Peroxide  
**N03** Colour fastness to bleaching : Sodium chlorite : Mild  
**N04** Colour fastness to bleaching : Sodium chlorite : Severe  
**N05** Colour fastness to stoving
- ISO 105/P Textiles — Tests for colour fastness —**  
**Part P : Colour fastness to heat treatments**  
**P01** Colour fastness to dry heat (excluding pressing)  
**P02** Colour fastness to pleating : Steam pleating
- ISO 105/S Textiles — Tests for colour fastness —**  
**Part S : Colour fastness to vulcanizing**  
**S01** Colour fastness to vulcanizing : Hot air  
**S02** Colour fastness to vulcanizing : Sulphur monochloride  
**S03** Colour fastness to vulcanizing : Open steam
- ISO 105/X Textiles — Tests for colour fastness —**  
**Part X : Tests not included in parts A to S or part Z**  
**X01** Colour fastness to carbonizing : Aluminium chloride  
**X02** Colour fastness to carbonizing : Sulphuric acid  
**X03** Colour fastness to chlorination  
**X04** Colour fastness to mercerizing  
**X05** Colour fastness to organic solvents  
**X06** Colour fastness to soda boiling  
**X07** Colour fastness to cross-dyeing : Wool  
**X08** Colour fastness to degumming  
**X09** Colour fastness to formaldehyde  
**X10** Assessment of migration of textile colours into polyvinyl chloride coatings  
**X11** Colour fastness to hot pressing  
**X12** Colour fastness to rubbing  
**X13** Colour fastness of wool dyes to processes using chemical means for creasing, pleating and setting
- ISO 105/Z Textiles — Tests for colour fastness —**  
**Part Z : Colorant characteristics**  
**Z01** Colour fastness to metals in the dye-bath : Chromium salts  
**Z02** Colour fastness to metals in the dye-bath : Iron and copper

# Textiles — Tests for colour fastness —

## F01 Specification for standard adjacent fabric : Wool

### 1 Scope and field of application

This specification is intended to establish an undyed pure wool adjacent fabric which may be used for the assessment of staining in colour fastness test procedures. The standard wool adjacent fabric exhibits standardized staining properties.

### 2 Principle

For testing the standardized staining properties, two water fastness tests and also a wash test carried out at 50 °C are conducted on two composite specimens made from a dyed master fabric and a cotton adjacent fabric with

- a) the wool fabric under test, and
- b) a sample of the master standard wool adjacent fabric.

Staining is then assessed using the grey scale for assessing staining.

### 3 References

ISO 105 :

Section A01, *General principles of testing*.

Section A03, *Grey scale for assessing staining*.

Section C02, *Colour fastness to washing : Test 2*.

Section E01, *Colour fastness to water*.

ISO 3072, *Wool — Determination of solubility in alkali*.

### 4 Apparatus and reagents

**4.1 Apparatus and reagent**, as specified in section E01.

**4.2 Apparatus and reagents**, as specified in section C02.

**4.3 Grey scale for assessing staining** (see clause 3).

**4.4** For first dyed master fabric — **1,5 % CI Direct Red 16** (Colour Index, 3rd Edition).

For second dyed master fabric — **3 % CI Acid Red 42** (Colour Index, 3rd Edition).

For third dyed master fabric — **2 % CI Acid Red 42** (Colour Index, 3rd Edition).

**4.5 Samples of master standard wool adjacent fabric** (see 6.3).

### 5 Characteristics of the fabric

Choose a fabric having technical characteristics as similar as possible to those of the master standard adjacent fabric.

#### 5.1 Composition and construction

The standard wool adjacent fabric is a wool cloth of mass per unit area  $125^{+5}_{-0}$  g/m<sup>2</sup>. It consists of a plain weave cloth with an even and smooth surface made of pure wool fibres. After wetting and tensionless drying, a sample shall remain flat. It shall be free from finishes, residual chemicals, and chemically damaged fibres.

#### 5.2 Staining properties

As adjacent fabrics shall yield exact and reproducible assessments, their most important property is standardized staining characteristics during colour fastness tests. Dyed master fabrics are set up, whose staining properties in specified fastness tests are defined. Staining characteristics of the wool adjacent fabrics shall conform to those of the dyed master fabric.

### 5.2.1 Dyed master fabrics to be subjected to the colour fastness tests

- a) First dyed master fabric : 1,5 % CI Direct Red 16 (Colour Index, 3rd Edition) dyed on a specified cotton adjacent fabric (see 6.2.1). This dyeing is intended for the water fastness test method [see 5.2.2 a)].
- b) Second dyed master fabric : 3 % CI Acid Red 42 (Colour Index, 3rd Edition) dyed on a specified wool adjacent fabric (see 6.2.2). This dyeing is intended for the water fastness test method [see 5.2.2 a)].
- c) Third dyed master fabric : 2 % CI Acid Red 42 (Colour Index, 3rd Edition) dyed on a specified wool adjacent fabric (see 6.2.3). This dyeing is intended for the washing test 2 (50 °C) [see 5.2.2 b)].

### 5.2.2 Colour fastness test methods employed for assessing the staining properties

The staining properties of the standard wool adjacent fabric are determined by the following test methods :

- a) water fastness test according to section E01;
- b) washing test 2 (50 °C) according to section C02.

### 5.2.3 Test specimens

In order to test the wool fabric, which is prepared as described in 6.1 and which is intended to be used as a specified wool adjacent fabric, a dyed master fabric (see 5.2.1) is placed between the wool fabric to be tested and a cotton adjacent fabric. For comparison, another composite specimen is made by using a sample of the master wool adjacent fabric. Both composite specimens are tested according to 5.2.2.

### 5.2.4 Results of the staining during the tests

The staining of the wool adjacent fabrics shall yield the following assessment, measured by the grey scale for assessing staining (see 6.3) :

- a) water fastness test with the first dyed master fabric : 3;
- b) water fastness test with the second dyed master fabric : 2-3;
- c) washing test 2 (50 °C) with the third dyed master fabric : 3-4.

Test assessment of the staining shall not differ by more than half a step from those specified.

The change of colour of the dyed master fabric and the staining of the cotton adjacent fabric are neglected.

## 6 Notes

### 6.1 Production of the standard wool adjacent fabric

#### 6.1.1 Raw material for warp and weft

Australian Merino wool — Mean fibre diameter in the range 18,5 to 19,7  $\mu\text{m}$  = 74 s British fineness washed in weak alkali.

Staple length 50 to 70 mm.

#### 6.1.2 Yarn, warp and weft identical

15,6 tex  $\times$  2 worsted.

Spin twist : 620 t/m.

Yarn twist : 600 t/m.

Fat content of the yarn :  $0,6 \pm 0,2$  %  
(emulsified groundnut oiling agent).

Steam treatments of single yarn and after twisting : mild and uniform in respect of the charge and the duration of steam treatment and conditions for the whole batch.

Production samples of the yarn shall be tested to determine compliance with the following requirements :

pH value of the aqueous extract at 20 °C :  $9,5 \pm 0,2$ ;

fat content :  $0,6 \pm 0,2$  %.

Staining in the water fastness test according to 5.2.2 a) should be 3 or 3-4, i.e. similar or somewhat less than master standard adjacent fabric.

Alkali solubility shall not exceed 18 % (determined by the method in ISO 3072).

#### 6.1.3 Grey goods

Weave 1/1 plain.

Number of threads

warp  $210 \pm 5$  per 10 cm

weft  $180 \pm 5$  per 10 cm

weaving without sizing.

Staining after washing according to 6.1.4 in water fastness test [see 5.2.2 a)] should be 3-4.

Fat content :  $0,5 \pm 0,2$  %.