International Standard 105/N

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Textiles — Tests for colour fastness — Part N: Colour fastness to bleaching agencies

Textiles — Essais de solidité des teintures — Partie N: Solidité des teintures aux agents de blanchiment

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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/N 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 N of ISO 105-1978, originally published as parts 6, 7 and 20 of ISO Recommendation R 105/I-1959, and parts 7 and 8 of ISO Recommendation R 105/II-1963.

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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Contents of ISO 105

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

N01 Colour fastness to bleaching : Hypochlorite

1 SCOPE AND FIELD OF APPLICATION

This method is intended for determining the resistance of the colour of textiles of all kinds and in all forms to the action of bleaching baths containing sodium, calcium or lithium hypochlorite in concentrations normally used in commercial bleaching. It is applicable mainly to natural and regenerated cellulose materials.

2 PRINCIPLE

A specimen of the textile is agitated in a solution of sodium or lithium hypochlorite, rinsed in water, agitated in a hydrogen peroxide solution or sodium bisulphite solution, rinsed and dried. The change in colour 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.*

Section C01, *Colour fastness to washing : Test 1.*

4 APPARATUS AND REAGENTS

4.1 Glass or glazed porcelain container which can be closed, for specimen and bleaching solution.

4.2 *Either* :

Sodium hypochlorite (NaOCl) solution containing 2,0 g of available chlorine per litre, buffered at pH 11,0 ± 0,2 with 10 g of anhydrous sodium carbonate (Na_2CO_3) per litre, at the temperature 20 ± 2 °C.

To prepare this reagent, use sodium hypochlorite of the following composition :

- active chlorine : 140 to 160 g/l
- sodium chloride (NaCl) : 120 to 170 g/l
- sodium hydroxide (NaOH) : 20 g/l maximum
- sodium carbonate (Na_2CO_3) : 20 g/l maximum
- iron (Fe) : 0,01 g/l maximum

Or :

Lithium hypochlorite (LiOCl) solution containing 0,2 g of available chlorine per litre, buffered at pH 11,0 ± 0,2 with 10 g of anhydrous sodium carbonate (Na_2CO_3) per litre, at the temperature 20 ± 2 °C.

To prepare this reagent, use solid lithium hypochlorite, which contains approximately 300 g of LiOCl per kilogram. About 10 g of solid lithium hypochlorite dissolved in 1 litre of distilled water yields a solution of the prescribed concentration of 2,0 g of available chlorine per litre.

4.3 Hydrogen peroxide solution containing 2,5 ml of hydrogen peroxide [30 % (*m/m*) H_2O_2] per litre, or a solution containing 5 g of **sodium bisulphite** ($NaHSO_3$) per litre.

4.4 Soap solution, containing 5 g of soap per litre (see subclause 4.3 of section C01) for wetting out water-repellent fabrics.

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

5 TEST SPECIMEN

5.1 If the textile to be tested is fabric, use a specimen 10 cm × 4 cm.

5.2 If the textile to be tested is yarn, knit it into fabric and use a specimen 10 cm × 4 cm, or make a wick of parallel lengths 10 cm long and about 0,5 cm in diameter, tied near both ends.

5.3 If the textile to be tested is loose fibre, comb and compress enough of it to form a sheet 10 cm × 4 cm; in order to support the fibres, sew the sheet on a piece of cloth which will not affect the action of the hypochlorite on the specimen.

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