INTERNATIONAL STANDARD 2839

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Prints and printing inks — Assessment of resistance to soaps

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FOREWORD

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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 2839 was drawn up by Technical Committee ISO/TC 130, *Graphic technology*, and circulated to the Member Bodies in August 1972.

It has been approved by the Member Bodies of the following countries :

Australia	Germany	Spain
Austria	India	Sweden
Chile	Ireland	Switzerland
Czechoslovakia	New Zealand	Thailand
Denmark	Poland	Turkey
Egypt, Arab Rep. of	Romania	United Kingdom
France	South Africa, Rep. of	

The Member Bodies of the following countries expressed disapproval of the document on technical grounds :

Finland
Italy

Printed in Switzerland

Prints and printing inks — Assessment of resistance to soaps

0 INTRODUCTION

This International Standard is in technical conformity with CEI specification 06-59 of the European Committee of the Paint and Printing Ink Manufacturers' Associations.

1 SCOPE

This International Standard specifies a method of assessing the resistance to soaps of prints and printing inks, by giving

- the general test requirements for prints;
- the special test requirements for inks.

2 REFERENCES

ISO/R 105/I, *Tests for colour fastness of textiles — First series.*

ISO 2834, *Printing inks — Preparation of standard prints for determination of resistance to physical and chemical agents.* [1)]

3 TESTING OF PRINTS

3.1 Field of application

This International Standard applies to all printing substrates such as paper, board, metals (thin metal sheets and plate) and plastics materials, and to all printing processes : letterpress, litho or gravure.

3.2 Definition

By **resistance of a print to soaps** is meant the resistance of a print to a soda soap solution of a given concentration.

The print is considered to be resistant to the soap under test when, under the test conditions and provided that the substrate has undergone no change, any deterioration is only neglibible and bleeding is below grade 4 of the grey scale.

3.3 Principle

A test piece is pressed with the printed side against filter papers previously dipped in a solution of the soap under test.

An assessment is made of any changes to the print and any bleeding of the colour onto the filter paper.

3.4 Apparatus and reagent

3.4.1 Filter paper for quantitative analysis, with a very smooth non-hardened surface. The size of the strips of filter paper should be 60 mm × 90 mm.

3.4.2 Aqueous 1 % standard soap solution, freshly prepared. [2)]

Standard soap : soda soap with high concentration of fatty acid content (89 %). The fatty acids consist of 1/3 tallow, 1/3 ground-nut and 1/3 coconut. The solution shall be prepared with deionized water.

3.4.3 Glass slides, 60 mm × 90 mm.

3.4.4 Grey scale for assessment of bleeding (According to ISO/R 105/I — Part 3).

3.5 Procedure

Place a 20 mm × 50 mm test piece with its printed side on a layer of at least three thicknesses of filter paper previously immersed in the standard soap solution, then allowed to drip so that it is completely saturated with the reagent and arranged on a glass slide.

Cover with a second glass slide and leave under a 1 kg weight for 3 h, in an atmosphere saturated with water vapour and at a temperature of 20 ± 2 °C.

Remove and rinse the test piece until such time as the water shows no sign of alkaline reaction to phenolphthalein. Then dry the test piece in an oven for 30 min at a temperature of about 40 °C.

1) At present at the stage of draft.

2) Standard soap conforming to these requirements may be obtained from Eidg. Materialprüfungsanstalt Unterstrasse 11, 9001 St. Gall, Switzerland.

Allow the strips of filter paper to dry naturally without rinsing.

3.6 Assessment of results

Compare the rinsed and dried test piece with an untreated test piece of the print.

Examine for any staining of the filter paper which has been in contact with the test piece. Bleeding is considered to have occurred if grade 4 of the grey scale is reached.

Examine whether the ink film is completely intact and if its adhesion is maintained.

3.7 Test report

Quoting this International Standard, state :

a) any alterations noted if the print colour has changed, and give precise details of changes attributable to the substrate;

b) the coloration — or absence of coloration — of the filter paper in contact with the print.

4 TESTING OF INK

4.1 Definition

By **resistance of an ink to soaps** is meant the resistance of a standard print tested and assessed according to the instructions given in this International Standard relating to prints.

4.2 Preparation of the standard print

Prepare the standard print according to the instructions given in ISO 2834.

4.3 Test method

Follow the instructions given in clause 3.