
INTERNATIONAL STANDARD



2840

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

Prints and printing inks — Determination of the resistance of prints to detergents

Impressions et encres d'imprimerie — Détermination de la résistance des impressions aux détergents

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[ISO 2840:1974](https://standards.iteh.ai/catalog/standards/sist/f19e0305-6175-4724-a452-600620c9518e/iso-2840-1974)

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Descriptors : printing, printing inks, tests, chemical tests, chemical resistance, detergents, domestic products resistance.

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 2840 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	Hungary	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

Prints and printing inks – Determination of the resistance of prints to detergents

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0 INTRODUCTION

This International Standard is in technical conformity with CEI specification 07-59 of the European Committee of the Paint and Printing Ink Manufacturers' Associations.

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

1 SCOPE

This International Standard specifies a method for determining the resistance of prints to detergents.

2 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 and gravure.

3 REFERENCE

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

4 DEFINITION

By **resistance of a print to detergents** is meant the resistance of a print, to the particular detergent used for the test.

5 TEST METHOD

5.1 Principle

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

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

5.2 Apparatus and reagents

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

5.2.2 1 % solution of the particular detergent under test, in deionized water freshly prepared.¹⁾

1) A concentration of 3 % is permissible.

5.2.3 Glass slides, 60 mm × 90 mm.

5.2.4 Grey scale for assessment of bleeding. (In accordance with ISO/R 105/I, 3rd part.)

5.3 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 solution of detergent to be tested, 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 h¹⁾ in an atmosphere saturated with water vapour and at a temperature of 20 ± 2 °C.

Remove and rinse the test piece thus obtained with deionized water. Then dry it in an oven for 30 min at a maximum temperature of 40 °C.

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

5.4 Assessment of results

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

Examine whether the filter paper which has been in contact with the test piece shows any staining. 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.

5.5 Test report

Quoting this International Standard, state :

a) the detergent used for the test;

NOTE — It should be borne in mind that detergents may vary within a given grade name.

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

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

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1) 1 h with a concentration of 3 %.