



# SLOVENSKI STANDARD SIST ISO 2836:2022

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Nadomešča:  
SIST ISO 2836:2004

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**Grafična tehnologija - Odtisi in tiskarske barve - Ugotavljanje odpornosti proti različnim dejavnikom**

Graphic technology - Prints and printing inks - Assessment of resistance of prints to various agents

**iTeh STANDARD  
PREVIEW**

Technologie graphique - Impressions et encres d'imprimerie - Évaluation de la résistance des impressions à divers agents

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**ICS:**

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**Graphic technology — Prints and  
printing inks — Assessment of  
resistance of prints to various agents**

*Technologie graphique — Impressions et encres d'imprimerie —  
Évaluation de la résistance des impressions à divers agents*

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## ISO 2836:2021(E)

### Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 130, *Graphic technology*.

This fourth edition cancels and replaces the third edition (ISO 2836:2004), which has been technically revised.

The main changes compared to the previous edition are as follows:

- consistency and document structure have been improved and an Introduction has been added;
- new agents have been added;
- information that aspects of food safety and consumer protection for food contact materials are not covered has been added.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## Introduction

During its service life, prints might need to resist certain agents. These agents can come in contact with prints during finishing operations like varnishing, or accidentally via interactions with certain vapours, fluids or solids like spilling of package contents onto the print. These kinds of agents can cause visual alterations to the print. These changes are due to either the colorants used in the inks or the substrate itself not being resistant to the particular agent.

This document defines laboratory test methods for the interaction of agents and prints and gives guidelines and requirements for the evaluation of changes on the print caused by those agents. All the methods within this document aims to allow a reasonable choice of raw materials to be used for the printing inks and substrates and for the testing of the prints for qualification purposes. The aim of all these methods is to avoid visual changes of the prints caused by the agents. Aspects of food safety and consumer protection for food contact material are not covered.

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# Graphic technology — Prints and printing inks — Assessment of resistance of prints to various agents

## 1 Scope

This document specifies methods of assessing the resistance of printed materials to liquid and solid agents, solvents, varnishes and acids.

It applies to printing on all substrates by any of the traditional printing process (offset, screen, gravure, flexo) as well as the newer digital processes (inkjet, electrophotography).

Aspects of food safety and consumer protection for food contact materials are not covered.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 105-A03, *Textiles — Tests for colour fastness — Part A03: Grey scale for assessing staining*

ISO 187, *Paper, board and pulps — Standard atmosphere for conditioning and testing and procedure for monitoring the atmosphere and conditioning of samples*

ISO 13655, *Graphic technology — Spectral measurement and colorimetric computation for graphic arts images*

ISO 14487, *Pulps — Standard water for physical testing*  
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## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

### 3.1

#### agent

liquid or solid to which a sample of printed material is exposed for the purpose of determining the *resistance* (3.2) characteristics of that printed sample

### 3.2

#### resistance

ability of a printed material to withstand exposure to a specified *agent* (3.1) as determined by the tests defined in this document

### 3.3

#### test piece

section of a test print or section of a print from a conventional or digital printing press

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### 4 Principle

A test piece is either immersed in the prescribed agent, pressed between agent-soaked filter papers or brought into direct contact of its printed side with the agent for a given time.

Colour changes of the test piece, the agents and the filter papers are noted, characterized and reported.

### 5 Agents

#### 5.1 General

The type of agent used, and its concentration shall be reported.

#### 5.2 Water

This document does not specify the type of water used for the assessment of resistance of prints. It may be tap water, distilled water, deionized water, natural water, etc. The type of water used shall be reported. For the purpose of rinsing filter papers and test pieces after tests, deionized water according to ISO 14487 shall be used.

#### 5.3 Alkali

This document specifies a 1 % by mass solution of sodium hydroxide in distilled water used for the assessment of resistance of prints.

#### 5.4 Oils and fats

This document does not specify the oil or the fat to be used for the assessment of resistance of prints. It may be animal, vegetable, mineral, essential or synthetic. Examples of such oils include but are not limited to: fish oil, olive oil, liquid paraffin, lavender oil, silicone oil, butter, margarine, lanolin, grease.

#### 5.5 Cheese

This document does not specify the type of cheese, for example soft cheese or hard cheese, used for the assessment of resistance of prints. However, the cheese shall be used as a solid agent in a natural state, i.e. not liquefied.

#### 5.6 Detergents

This document does not specify the type of detergent, such as liquid or solid, used for the assessment of resistance of prints, only its concentration: 1 % by mass.

#### 5.7 Soaps

This document does not specify the type of soap, hard or soft, used for the assessment of resistance of prints, only its concentration: 1 % by mass.

#### 5.8 Waxes

This document does not specify the type of wax to be used for the assessment of resistance of prints, i.e. animal, vegetable, mineral or synthetic, such as beeswax, carnauba wax, paraffin wax, Fischer Tropsch wax.

#### 5.9 Spices

This document does not specify the spice to be used for the assessment of resistance of prints.