



SLOVENSKI STANDARD SIST ISO 2834-1:2008

01-junij-2008

Nadomešča:
SIST ISO 2834:2002

**Grafična tehnologija - Laboratorijska izdelava preizkusnih odtisov - 1. del:
Pastozne tiskarske barve**

Graphic technology – Laboratory preparation of test prints – Part 1: Paste inks in

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Ta slovenski standard je istoveten z: ^{SIST ISO 2834-1:2008}ISO 2834-1:2006
https://standards.iteh.ai/sist-iso-2834-1-2008/4c42-b266-7743b9eb3fbc/sist-iso-2834-1-2008

ICS:

87.080

Barvila. Tiskarske barve

Inks. Printing inks

SIST ISO 2834-1:2008

en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST ISO 2834-1:2008

<https://standards.iteh.ai/catalog/standards/sist/bfc526ad-73da-4c42-b266-7743b9eb3fbc/sist-iso-2834-1-2008>

INTERNATIONAL STANDARD

ISO
2834-1

First edition
2006-06-01

Graphic technology — Laboratory preparation of test prints —

Part 1: Paste inks

*Technologie graphique — Préparation en laboratoire des impressions
d'essai —*

iTeh STANDARD PREVIEW
Partie 1: Encres compactes
(standards.iteh.ai)

SIST ISO 2834-1:2008

<https://standards.iteh.ai/catalog/standards/sist/bfc526ad-73da-4c42-b266-7743b9eb3fbc/sist-iso-2834-1-2008>



Reference number
ISO 2834-1:2006(E)

© ISO 2006

ISO 2834-1:2006(E)

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST ISO 2834-1:2008

<https://standards.iteh.ai/catalog/standards/sist/bfc526ad-73da-4c42-b266-7743b9eb3fbc/sist-iso-2834-1-2008>

© ISO 2006

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 2834-1 was prepared by Technical Committee ISO/TC 130, *Graphic technology*.

This first edition of ISO 2834-1, together with ISO 2834-2 and ISO 2834-3, cancels and replaces ISO 2834:1999. It also incorporates the Technical Corrigendum, ISO 2834:1999/Cor 1:2003. It is both a revision and an expansion of ISO 2834:1999 which only was applicable to lithographic and letterpress inks. The revised series of ISO 2834 makes provision for test print preparation for all ink types and this part of ISO 2834 covers paste inks. In addition, this part of ISO 2834 was adapted to include a larger range of commercially available ink printability testers.

<https://standards.iteh.ai/catalog/standards/sist/bfc526ad-73da-4c42-b266-7743b9eb34fc/sist-iso-2834-1-2008>

ISO 2834 consists of the following parts, under the general title *Graphic technology — Laboratory preparation of test prints*:

- *Part 1: Paste inks*
- *Part 2: Liquid inks*
- *Part 3: Screen inks*

Introduction

This part of ISO 2834 specifies the test print preparation for paste inks, i.e. lithographic and letterpress inks. These test prints have a homogeneous distribution of ink on a specified substrate and a known ink coverage and/or ink layer thickness. Therefore, they are suitable for optical tests so that the measured reflectance can be assigned to a known ink layer thickness. If test prints are prepared only for mechanical and chemical resistance tests, where the accuracy of the known ink layer thickness is different, it may be possible to apply other less accurate methods, e.g. using coaters or drawdown bars.

The methods described in this part of ISO 2834 are used in other International Standards, e.g. ISO 2846-1, ISO 2846-2 and ISO 2836.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST ISO 2834-1:2008](https://standards.iteh.ai/catalog/standards/sist/bfc526ad-73da-4c42-b266-7743b9eb3fbc/sist-iso-2834-1-2008)

<https://standards.iteh.ai/catalog/standards/sist/bfc526ad-73da-4c42-b266-7743b9eb3fbc/sist-iso-2834-1-2008>

Graphic technology — Laboratory preparation of test prints —

Part 1: Paste inks

1 Scope

This part of ISO 2834 specifies a laboratory method for the preparation of printed samples made with paste inks (such as inks used for lithographic and letterpress printing). Such printed samples are intended to be used for reflection based measurements, such as colorimetry and reflection density as well as for testing light fastness, and the resistance of printing inks to mechanical and chemical attack regarding either printing ink and/or substrate.

2 Terms and definitions

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

2.1

printability tester

device for uniformly inking a printing forme and transferring a known amount of ink on a substrate under specified conditions

2.2

printed area

area of a substrate that is printed on, given by the surface area of the printing forme

3 Test method

3.1 Principle

Using a printability tester, a known quantity of ink is printed uniformly on a known area of the paper or any other chosen substrate. The ink coverage is expressed in grams per square metre or, taking into account the mass density of the ink, by the ink layer thickness in micrometres.

For ease of operation, an ink pipette may be used for metering the amount of ink supplied to the inking unit. The actual amount of ink transferred to the substrate is only determined by weighing the printing forme immediately before and after printing.

Additional to printing, test samples for mechanical and chemical resistance tests may be prepared using any technique resulting in a uniform ink film in a desired thickness range, for example using a hand roller, coater or drawdown bar.

ISO 2834-1:2006(E)**3.2 Apparatus****3.2.1 Printability tester**

The printability tester allows for the uniform inking of the printing forme and the uniform transfer of the ink to the substrate at a constant speed and pressure.

3.2.2 Printing forme

The printing forme shall have either a smooth metallic and non-porous surface or shall be covered by an elastomer or rubber blanket. The type of the printing forme shall be mentioned in the report.

3.2.3 Analytical balance

The analytical balance shall be accurate to 0,1 mg.

3.3 Materials**3.3.1 Printing ink**

Printing inks for the preparation of test prints shall be ready for use.

3.3.2 Substrate

For the purpose of optical tests, the assessment of light fastness of an ink and any other test, there shall be prior agreement as to the substrate to be used.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

4 Procedure

SIST ISO 2834-1:2008
<https://standards.iteh.ai/catalog/standards/sist/bfc526ad-73da-4c42-b266-7743b9eb3fbc/sist-iso-2834-1-2008>

4.1 Printing**4.1.1 Inking of the printing forme**

An appropriate amount of ink shall be applied to the inking unit. Appropriate time for distribution on the inking unit and inking of the printing forme shall be chosen to ensure a homogeneous distribution of the ink.

It is important to keep the distribution time and the inking time of the forme as short and as constant as possible, preferably controlled by the inking unit itself. If the unit is not equipped with this facility, a separate timer shall be used. Leaving the ink too long on the inking unit and/or running at high speed may change the properties due to misting, drying and evaporation of solvents. Distribution and inking times are specified in Annex A.

The inking time does not include the weighing time.

Solvent used to clean the printing forme and the ink distribution roller can penetrate into the coverage of the rollers. Time needs to be allowed to ensure full evaporation of the solvent. Using two or more formes and inking sections alternatively is recommended.

NOTE Several low inflammable, low odour and/or environment-friendly solvents leave an oily or greasy deposit on the forme. This deposit can evaporate only after a long time or needs to be wiped off before using the forme to prevent the next print from being influenced by residues of the solvent.

Evaporation of the solvents draw most of the energy required from the surface of the roller, therefore the rollers may cool several degrees while drying. They should be allowed to reach temperature equilibrium again before the next use, by letting them run dry on the inking unit or giving them sufficient time on the inking unit.

Separate distribution rollers and printing formes with suitable material properties, as specified by the manufacturer, should be used for radiation-cured inks.

Before using any printability tester for the preparation of test prints, it is important to contact the supplier to confirm compliance with this part of ISO 2834.

Calibration of the printing device is very important for obtaining correct, reliable and repeatable results. For details on calibration, consult the supplier and the documentation supplied with the instrument.

The lifetime of the rubber- or elastomer-covered parts is limited, if properly handled, to a maximum of approximately 3 years. For rubber blankets this may be only three to twelve months. To prevent sudden change in printing results it is recommended to replace the rubber rollers after one to two years and before differences in results can be observed.

The transfer characteristics of rubber rollers can change for a variety of reasons. Among these are:

- using them for different applications or ink types;
- bad cleaning;
- unsuitable cleaning solvents;
- ageing.

If tests are made using different distribution rollers it is important that the distribution rollers are identical, a test to determine the ink transfer may have to be performed.

For details concerning distribution and inking, see Annex A.

4.1.2 Prints for optical tests

SIST ISO 2834-1:2008

<https://standards.iteh.ai/catalog/standards/sist/bfc526ad-73da-4c42-b266-7743b9eb3fbc/sist-iso-2834-1-2008>

Test prints shall be prepared as follows:

- the print shall be made using a printability tester using a printing forme in accordance with 3.2.2;
- in case of applying an ink coverage of more than 1 g/m² a metal forme can be used; this is to be mentioned in the report;
- printing shall be directly from the printing forme to the substrate;
- the temperature of the inking unit shall be (24 ± 1) °C;
- prints shall be produced with an appropriate printing line pressure (see Annex A);
- the inking unit and the printing forme shall be cleaned after each print;
- for radiation curing inks, suitable ink distribution rollers and printing formes shall be used.