
**Graphic technology — Processless
lithographic plates — Evaluation
methods for characteristics and
performance**

*Technologie graphique — Plaques lithographiques sans traitement —
Méthodes d'évaluation des caractéristiques et des performances*



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Published in Switzerland

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Test procedure	2
4.1 General	2
4.2 Test environment	2
4.3 Plate imaging	3
4.3.1 General	3
4.3.2 Colour test form	3
4.3.3 Abrasion and scratch resistance test form	4
4.3.4 Image visibility test form	5
4.4 Pre-dampening amount	6
4.5 Pre-inking amount	6
4.6 Ink selection	6
4.7 Substrate selection	7
4.8 Fountain solution	7
4.9 Press preparation and control	7
4.9.1 Press preparation print run	7
4.9.2 Reference printing aim values	8
4.10 Printing method	8
4.11 Plate exposure to light	8
5 Assessment methods	8
5.1 General	8
5.2 On-press development	9
5.2.1 Number of sheets required for on-press development	9
5.2.2 Assessment of non-image area	9
5.2.3 Assessment of solid area	10
5.2.4 Assessment of intermediate tones	11
5.3 Abrasion resistance	11
5.4 Scratch resistance	11
5.5 Resistance to toning	13
5.6 Chemical resistance	15
5.6.1 General	15
5.6.2 Rub test	16
5.6.3 Drop test	16
5.7 Plate performance for stop and restart	16
5.8 Image visibility	17
5.9 Run length	17
6 Reporting requirements	19
Annex A (informative) Examples of measurement method and results	20
Annex B (informative) Example of evaluation results and classification	34
Annex C (informative) Examples of quality grade reporting	36
Bibliography	39

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 document 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).

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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.

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

This first edition of ISO 24487 cancels and replaces ISO 24487-1:2021, which has been technically revised.

The main changes are as follows:

- the title and ISO number have been changed to remove the part number;
- the scope has been expanded to include evaluation points both specific to processless indicator and those common to the conventional indicator:
 - scratch resistance (see [5.4](#), [A.7](#) and [C.3](#));
 - image visibility (see [5.8](#), [A.8](#) and [C.7](#));
 - run length (see [5.9](#), [A.9](#) and [C.8](#));
- new terms have been added to [Clause 3](#).

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.

Introduction

Processless plates represent a simple way to prepare plates in prepress. Once a plate has been imaged, it is mounted directly on the press where the plate coating is removed on start-up of the press. This approach eliminates the plate processor, associated chemistry, energy required to power the processor, water, and waste from plate preparation.

Perceived benefits of processless plates include ease of use and improved speed of production compared to traditional plate preparation systems since there is no need for a plate processor or finishing unit. Processless plates are mounted directly on press once imaged. Since costs associated with processors and finishing units, including developer and cleaning solution, time and labour are eliminated, printing using processless plates is perceived as a low-cost method.

The unique characteristic of processless plates is on-press development. After the exposure process by computer to plate (CTP) exposing equipment, the non-image area of the photosensitive layer is physically removed along with the ink and the fountain solution of the press.

The removal procedure is as follows.

- When the press is started, fountain solution and ink are applied. The fountain solution permeates the unexposed (non-image) area of the photosensitive layer. The unexposed photosensitive layer is then peeled from the base material by the tack of the printing ink.
- This peeled photosensitive layer is finely dispersed into the ink which is discharged on paper from the press in the usual way. Parts of the peeled layer are also discharged into the fountain solution.

This document specifies evaluation methods for lithographic plate characteristics, on press development performance, usability and print image quality. These evaluation methods are primarily intended for processless lithographic plates but some can be used for the evaluation of all classes of lithographic plate, however, it should be noted that quality and performance may be significantly affected by the development process and its stability.

Graphic technology — Processless lithographic plates — Evaluation methods for characteristics and performance

1 Scope

This document applies to processless lithographic plates and specifies evaluation methods for lithographic plate characteristics, on-press development performance, usability and print image quality.

It specifies measurement conditions for materials and equipment and provides guidelines for the selection of suitable processless lithographic plates by a printing organization and requirements for comparative assessment tests.

The assessment of waterless lithographic plates is out of scope of this document.

NOTE Some of these methods can be used for the evaluation of all classes of lithographic plate.

This document specifies measurement conditions for materials and equipment and provides guidelines for the selection of suitable processless lithographic plates by a printing organization and requirements for comparative assessment tests.

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 2846-1, *Graphic technology — Colour and transparency of printing ink sets for four-colour printing — Part 1: Sheet-fed and heat-set web offset lithographic printing*

ISO 12647-2, *Graphic technology — Process control for the production of half-tone colour separations, proof and production prints — Part 2: Offset lithographic processes*

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

3 Terms and definitions

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

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

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

3.1

processless plate

plate loaded directly on to a printing press following exposure without any intermediate processing step other than mechanical processes such as plate punching and bending

Note 1 to entry: Intermediate processing steps typically include plate development, cleaning, fixing (or desensitization) and other treatments.

Note 2 to entry: Strictly speaking, these plates are 'processed' on press using the press fountain solution and ink.