

**TRÜKITEHNOLOOGIA**

**Protsessi kontrollimine pooltooni värvilahutuste, proovitrükkide ja tootmistrükkide valmistamisel**

**Osa 3: *Coldset* ofsettrükk ja kõrgtrükk ajalehepaberil (ISO 12647-3:1998)**

Graphic technology

Process control for the manufacture of half-tone colour separations, proofs and production prints

Part 3: Coldset offset lithography and letterpress on newsprint (ISO 12647-3:1998)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-ISO 12647-3:2007 "Trükitehnoloogia. Protsessi kontrollimine pooltooni värvilahutuste, proovitrükkide ja tootmistrükkide valmistamisel. Osa 3: Coldset ofsettrükk ja kõrgrükk ajalehepaberil" sisaldab rahvusvahelise standardi ISO 12647-3:1998 "Graphic technology - Process control for the manufacture of half-tone colour separations, proofs and production prints - Part 3: Coldset offset lithography and letterpress on newsprint" identset ingliskeelset teksti.</p>	<p>This Estonian Standard EVS-ISO 12647-3:2007 consists of the identical English text of the International Standard ISO 12647-3:1998 "Graphic technology - Process control for the manufacture of half-tone colour separations, proofs and production prints - Part 3: Coldset offset lithography and letterpress on newsprint".</p>
<p>Standardi avaldamise korraldas Eesti Standardikeskus.</p>	<p>Estonian standard is published by the Estonian Centre for Standardisation.</p>
<p>Standard EVS-ISO 12647-3:2007 on kinnitatud Eesti Standardikeskuse 04.07.2007. käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teataja 2007. aasta augustikuu numbris.</p>	<p>This standard is ratified with the order of Estonian Centre for Standardisation dated 04.07.2007 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p>
<p>Standard on kättesaadav Eesti Standardikeskusest.</p>	<p>The standard is available from Estonian Centre for Standardisation.</p>

## Käsitlusala

ISO 12647 käesolev osa määratleb trükitingimused ühe- või neljavärvi trüki ja proovitrüki jaoks. Ühist eesmärki taotlevad osapooled võivad kasutada siin määratletud parameetrite väärtusi oma andmevahetuses, et kirjeldada plaanitavat trükimeetodit ja/või kontrollida trükiprotsessi.

ISO 12647 käesolev osa:

- määratleb hulga protsessi parameetreid koos väärtustega, mida tuleb kasutada pooltooni värvilahutuste valmistamisel ühe- või neljavärvi proovitrükkide ja tootmistrükkide jaoks ajalehetrükkil. Parameetrite valik põhineb protsessi etappidel "värvilahutus", "trükivormi valmistamine", "proovitrükk", "tootmistrükk".
- on rakendatav proovitrükkide ja tootmistrükkide ajalehepaberile või seda matkivale paberile trükkimisele coldset ofset- ja kõrgrükimeetodil, mis kasutavad värvilahutusfilmi optilise analooginfo salvestuskandjana ning ei salvesta andmeid digitaalsel kujul elektroonilises salvestusvahendis;
- on analoogia põhjal rakendatav trükile trükipindadelt, mis on valmistatud otseste kujutise loomise meetoditega (CtP), ja vastavatele proovitrükkide protsessidele;
- ei ole rakendatav joonrastritele ja mitteperioodilistele rastritele, kuigi mõningaid esitatud parameetreid võib analoogia põhjal rakendada. Konkreetset on otseselt rakendatavad käsitletud punktikasvud, kuna nad viitavad kontrollväljadele, mis sisaldavad perioodilise rastri pooltoone;
- ei ole rakendatav fleksotrüki proovitrükkidele ja tootmistrükkidele, kuigi mitmeid parameetreid võib analoogia põhjal rakendada.

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## 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 3.

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.

International Standard ISO 12647-3 was prepared by Technical Committee ISO/TC 130, *Graphic technology*.

ISO 12647 consists of the following parts, under the general title *Graphic technology — Process control for the manufacture of half-tone colour separations, proofs and production prints*:

- *Part 1: Parameters and measurement methods*
- *Part 2: Offset lithographic processes*
- *Part 3: Coldset offset lithography and letterpress on newsprint*
- *Part 4: Gravure printing*
- *Part 5: Screen printing*

Annex A of this part of ISO 12647 is for information only.

## Introduction

When producing a half-tone colour reproduction it is important that the colour separator, proofer and printer have previously specified a minimum set of parameters that uniquely define the visual characteristics and other technical properties of the planned print product. Such an agreement enables the correct production of suitable separations (without recourse to trial-and-error") and subsequent production of off-press or on-press proof prints from these separations whose purpose is to simulate the visual characteristics of the finished print product as closely as possible.

For more information on the technical background refer to ISO 12647-1.

It is the purpose of this part of ISO 12647 to list and explain the minimum set of process parameters required to uniquely define the visual characteristics and related technical properties of a half-tone proof or production print produced by coldset offset or letterpress on newsprint, or half-tone proof designed to simulate this, from a set of half-tone separation films.

It is a further purpose of this part of ISO 12647 to list values or sets of values of the primary parameters specified in ISO 12647-1 and related technical properties of a half-tone newspaper print or proof produced from a set of half-tone colour separation films. Where deemed useful, secondary parameters are also recommended for specification.

Since non-periodic screening and direct-to-plate techniques are common practice with newspaper printing, information on some of the pertinent parameters has been included.

# Graphic technology — Process control for the manufacture of half-tone colour separations, proofs and production prints —

## Part 3:

## Coldset offset lithography and letterpress on newsprint

### 1 Scope

This part of ISO 12647 specifies printing conditions for newspaper single- or four-colour printing and proofing. The values of the parameters specified may be used in the exchange of data to characterize the intended printing condition and/or for the process control of printing by practitioners wishing to work to common goals.

This part of ISO 12647

- specifies a number of process parameters and their values that shall be applied when preparing half-tone separations for newspaper single- or four-colour proof and production printing. The parameters and values are chosen in view of the process stages “colour separation”, “making of the printing forme”, “proofing” and “production printing”;
- is applicable to coldset offset and letterpress proof and production printing and off-press proof printing processes on newsprint, or that simulate newsprint, and that use colour separation films as an analogue optical information storage medium rather than storage in digital form in an electronic storage medium;
- is applicable by analogy to press printing from printing surfaces produced by direct imaging methods and the corresponding proof printing processes;
- is not applicable to line screens and non-periodic screens although certain parameters given can be applied by analogy. In particular, the tone values increases specified apply directly because they refer to control patches which contain periodic screen half-tones;
- is not applicable to flexo proof and production printing although a number of parameters can be applied by analogy.

### 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 12647. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 12647 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 5-3:1995, *Photography — Density measurements — Part 3: Spectral conditions*.

ISO 5-4:1995, *Photography — Density measurements — Part 4: Geometric conditions for reflection density*.

ISO 2846-2:—<sup>1)</sup>, *Graphic technology — Colour and transparency of ink sets for four-colour-printing — Part 2: Newspaper printing*.

<sup>1)</sup> To be published.

ISO 12647-1:1996, *Graphic technology — Process control for the manufacture of half-tone colour separations, proof and production prints — Part 1: Parameters and measurement methods.*

ISO 12642:1996, *Graphic technology — Prepress digital data exchange — Input data for characterization of 4-colour process printing.*

### 3 Terms and definitions

For the purposes of this part of ISO 12647, the terms and definitions given in ISO 12647-1 and the following apply.

**3.1**  
**coldset offset**  
method of offset lithographic printing where the inks set ("dry") primarily by absorption into the print substrate

**3.2**  
**non-periodic (half-tone) screen**  
half-tone screen without a regular screen angle and without a constant screen ruling

NOTE Sometimes referred to as stochastic, frequency modulated or random screens.

### 4 Requirements

The following subclauses are arranged according to the order set out in ISO 12647-1. They also depend on it for the definition of the parameters and test methods.

#### 4.1 Colour separation films

##### 4.1.1 Quality

Unless otherwise specified, the core density shall be at least 2,5 for offset and 3,5 for letterpress above the transmission density of the clear film (film base plus fog). The transmission density in the centre of a clear half-tone dot shall not be more than 0,1 above the corresponding value of a large clear area. The transmission density of the clear film shall not be higher than 0,15.

The fringe width shall not be greater than one-fortieth of the screen width; the half-tone dot shall not be split up in distinct parts.

The colour separation film quality shall be evaluated according to annex B of ISO 12647-1. Measurements shall be made with a (UV) transmission densitometer whose spectral products conform to ISO type 1 printing density as defined in ISO 5-3; for the evaluation of core properties, type 2 printing density may be used.

NOTE 1 The clear film density requirement is based on the understanding

- that the density range of the clear areas of all films that are to be exposed on to an offset plate, for consistent work, should not exceed 0,10;
- that 0,05 represents the lowest commonly found value for ISO type 1 printing density. In order to minimise the impact of the use of half-tone films with clear film densities above this range, agreements between the supplier of colour separations and the recipient are required. Contacting or duplicating can also be used to bring half-tone films with dissimilar clear film densities into agreement.

NOTE 2 As a practical guide, a core density of 2,5 above the clear film density will normally be achieved if the density of large solid areas is more than 3,5 above the clear film density.

NOTE 3 If a user wishes to use a blue filter for transmission density measurements, as is the case for type 2 printing density, it is necessary to determine, for the particular film type and processing conditions, the correlation between densities obtained with the blue filter and those obtained with an ISO type 1 printing density instrument.

NOTE 4 With non-periodic screens, a fringe width of not more than 4  $\mu\text{m}$  is reported to give reliable results.