
**Information technology — Office
equipment — Method for the
determination of ink cartridge photo yield
for colour printing with inkjet printers and
multi-function devices that contain inkjet
printer components**

*Technologies de l'information — Équipement de bureau — Méthode
d'essai de la détermination du rendement des cartouches d'encre pour
l'impression de photographies en couleurs avec des imprimantes à jet
d'encre et des dispositifs multi-fonctions contenant des composants
d'imprimantes à jet d'encre*

Withdrawn



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2011

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

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Test parameters and conditions	4
4.1 Set-up	4
4.2 Sample size	5
4.3 Print mode	5
4.4 Print environment	6
4.5 Paper Media	7
4.6 Maintenance	7
4.7 Test files	7
5 Test methodology	8
5.1 Testing procedure	8
5.2 Procedure for handling streaks	8
5.3 Procedure for handling a defective cartridge, printhead or printer	9
6 Determination of the declared yield value and declaration	10
6.1 Yield of primary cartridges	10
6.2 Yield of supplemental cartridges	11
6.3 Test data reporting	14
6.4 Declaration of the yield	14
Annex A (informative) Examples of fade	19
Annex B (informative) Examples of streaks	20
Annex C (normative) Test reporting form	21
Annex D (informative) Process flowchart	24
Annex E (informative) Method for black and white photo yield determination	26

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

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

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national 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 and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 29102 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 28, *Office equipment*.

Introduction

The scope of this International Standard is limited to evaluation of ink cartridge photo yield of ink-containing cartridges (i.e. integrated ink cartridges and ink cartridges without integrated print heads) for colour photo printing with colour inkjet printers. This International Standard can be applied to colour inkjet printers having an interface to a computer as well as colour inkjet printers that can not be connected to a computer. This International Standard can also be applied to the inkjet printer component of any multifunctional device that has a digital input printing path, including multi-function devices that contain inkjet printer components. Both liquid and solid ink products can be tested using this International Standard.

The cartridge photo yields of primary cartridges are determined by an end of life judgment, or signaled with either of two phenomena: fade, caused by depletion of ink in the cartridge, or automatic printing stop, caused by an Ink Out detection function. The cartridge photo yields of supplemental cartridges are estimated. It is envisioned that one of the uses of this International Standard will be for the calculation of cost per page (CPP). While this International Standard measures a portion of this cost, it is not used as the sole component of CPP calculation. Additional factors need to be considered for accurate CPP calculations.

Information technology — Office equipment — Method for the determination of ink cartridge photo yield for colour printing with inkjet printers and multi-function devices that contain inkjet printer components

1 Scope

The purpose of this International Standard is to provide a method to determine the ink cartridge photo yield of ink-containing cartridges (i.e. integrated ink cartridges and ink cartridges without integrated print heads) for colour photo printing with colour inkjet printers and multi-function devices that contain inkjet printer components. Ink cartridge yields determined on one printer model, paper and cartridge configuration are not applicable to another printer model or cartridge configuration even if the ink jet cartridges used in testing are the same.

This International Standard prescribes the following:

- the test method that manufacturers, test labs, etc. use to determine ink cartridge photo yield;
- the method for determination of declared photo yield values from the test results; and
- the appropriate method of describing the photo yield of cartridges in documentation supplied to the consumer by the manufacturer.

This International Standard is only intended for the determination of ink cartridge photo yield. No other claims can be made from this testing regarding quality, reliability, etc.

This International Standard can be used to determine the yield of any cartridge that is used during the printing of the photo test file defined in ISO/IEC 29103.

This International Standard is not for use with printers whose minimum printable size is equal to or greater than A3. This International Standard is not intended to measure the yield of photo printing on paper size larger than 4x6, L or A6. In addition, this International Standard is not for use with industrial printers or point of sale printers. It only applies to desktop printing systems.

2 Normative references

The following referenced documents are indispensable for the application 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/IEC 29103, *Information technology — Office equipment — Colour photo test pages for measurement of ink cartridge yield for colour photo printing*

ISO/IEC 24711, *Method for the determination of ink cartridge yield for colour inkjet printers and multi-function devices that contain printer components*