BS ISO/IEC 19798:2017

BSI Standards Publication

Information technology — Office equipment — Method for the determination of toner cartridge yield for colour printers and multi-function devices that contain printer components

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National foreword

This British Standard is the UK implementation of ISO/IEC 19798:2017. It supersedes BS ISO/IEC 19798:2006 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee IST/3, IT Printers and Cartridges.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2017.
Published by BSI Standards Limited 2017

ISBN 978 0 580 84294 8

ICS 37.100.10

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 January 2017.

Amendments/corrigenda issued since publication

Date	Text affected

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INTERNATIONAL STANDARD

ISO/IEC 19798

Third edition
2017-01

Information technology — Office equipment — Method for the determination of toner cartridge yield for colour printers and multi-function devices that contain printer components

Technologies de l'information — Équipements de bureau — Méthode pour la détermination du rendement de cartouche de toner pour les imprimantes couleur et pour les dispositifs multifonctionnels qui contiennent des composants d'imprimantes

Reference number
ISO/IEC 19798:2017(E)

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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.

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).

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).

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

For an explanation on 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 the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/IEC JTC 1, *Information technology*, SC 28, *Office equipment*.

This third edition cancels and replaces the second edition (ISO/IEC 19798:2007), of which it constitutes a minor revision with the following changes:

— The definitions for 3.1, 3.2, 3.3 and 3.4 have been aligned with ISO/IEC 19752:2016.

— For the sample size in 4.2 'at least' has been inserted.

— 4.8 has been added as a subclause containing information previously given in notes to entry in 3.5;

— ISO 29142-1 has been added to the Bibliography.

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Introduction

The purpose of this document is to provide a process for determining the cartridge page yield for a given colour electrophotographic print system (i.e. all-in-one toner cartridges and toner cartridges without a photoconductor) using a standard office consumer type test suite. This test suite is not focused on printing of photographs, but is intended to be a sampling of typical office consumer pages. In the case where a cartridge set can be used in multiple printer models, only one yield test needs to be performed as long as the difference between printer models does not impact yield.

NOTE A cartridge supplier can choose to use more than one market identifier for a single physical cartridge. In this case, only one yield test is required as long as there are no differences in the cartridges other than market identifiers.

This document prescribes the following:

— the test method that manufacturers, test labs, etc. use to determine cartridge yield;

— the method for determination of declared yield values from the test results;

— the appropriate method of describing the yield of cartridges in the documentation supplied to the consumer by the manufacturer.

The cartridge yield is determined by an end of life judgment, or signalled with either of two phenomena: *fade* caused by depletion of the useable toner in the cartridge or *automatic printing stop* caused by a toner out detection function.

This document will be used for the measurement of one of the contributions to cost per page (CPP). This document does not directly measure CPP, only the yield of the magenta, cyan, yellow and black toner cartridges. In most cases, these are not the only contributors to the CPP. It is beyond the scope of this document to provide a methodology for calculation of CPP.

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Information technology — Office equipment — Method for the determination of toner cartridge yield for colour printers and multi-function devices that contain printer components

1 Scope

The scope of this document is limited to evaluation of toner cartridge page yield for toner-containing cartridges (i.e. all-in-one toner cartridges and toner cartridges without a photoconductor) for colour electrophotographic print systems. This document can also be applied to the printer component of any multifunctional device that has a digital input printing path, including multi-function devices that contain electrophotographic printer components.

This document is only intended for the measurement of toner cartridge page yield when printing on plain paper using cyan, magenta, yellow and black toner cartridges. No other claims can be made from this testing regarding quality, reliability, etc.

This document is not for use with printers whose minimum printable size is equal to or greater than A3 or for photo-only printers.

NOTE 1 Application of this document for yield measurement of toner replenishment systems (i.e. toner cartridge and bottle type systems where the toner reservoir is internal to the printing system and not user-replaceable) requires some procedural modifications specifically noted herein. This document is intended for equipment used in the office space and does not apply to production volume or large format printing machines where the major cost of ownership is not caused by the consumable yield measured in this document.

NOTE 2 An all-in-one toner cartridge is a cartridge that includes at least: a toner containment part, a photoreceptor part and a developer part (see ISO/IEC 29142-1).

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/IEC 24712, *Colour test pages for measurement of office equipment consumable yield*

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:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
fade
phenomenon whereby a noticeable reduction in density uniformity in the bars around the sides of the diagnostic page occurs

Note 1 to entry: This does not have to be a distinct gap.

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