



International  
Standard

**ISO/IEC 19752**

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

*Technologies de l'information — Équipement de bureau —  
Méthode pour la détermination du rendement des cartouches  
de toner pour les imprimantes électrophotographiques  
monochromatiques et pour les dispositifs multifonctionnels qui  
contiennent des composants d'imprimantes*

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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.

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 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](http://www.iso.org/directives) or [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs)).

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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](http://www.iso.org/iso/foreword.html). In the IEC, see [www.iec.ch/understanding-standards](http://www.iec.ch/understanding-standards).

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

This third edition cancels and replaces the second edition (ISO/IEC 19752:2017), which has been technically revised.

The main changes are as follows:

- the Scope was limited " This document is not for use with printers whose minimum printable size is equal to or greater than A3 or for photo-only printers";
- editorial changes;
- requirements were added in [4.4](#) regarding environmental conditions.

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](http://www.iso.org/members.html) and [www.iec.ch/national-committees](http://www.iec.ch/national-committees).

## Introduction

The purpose of this document is to provide a process for determining the page yield for toner cartridges for monochromatic print systems using a standard office consumer type test page. In the case where a cartridge can be used in multiple printer models, only one yield test is performed as long as the difference between printer models does not impact yield.

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 performed 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 laboratories, etc. used 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.

NOTE A comparison of yield for two printing systems is shown in [Annex E](#).



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

## 1 Scope

This document is limited to the evaluation of toner cartridge page yield for toner containing cartridges (i.e. all-in-one toner cartridges and toner cartridges without a photoconductor) for monochrome 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 printer components.

This document is only intended for the measurement of toner cartridge yield. No other claims may 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.

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) implies 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 1 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).

NOTE 2 This document can 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 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.

## 2 Normative references

There are no normative references in this document.

## 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 fade

phenomenon whereby a noticeable reduction in density uniformity across the page occurs

Note 1 to entry: In this test, fade is defined as a noticeably lighter, 3 mm or greater, gap located in the text or boxes around the periphery of the test page. The determination of the change in lightness is to be made referenced to the 100th page printed for each cartridge in testing. For examples of fade, see [Annex A \(Figure A.1\)](#).