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

*Technologies de l'information — 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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Reference number  
ISO/IEC 19752:2004(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.

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 19752 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 28, *Office equipment*.

This corrected version of ISO/IEC 19752:2004 incorporates the corrected title, which has been changed from "Information technology — Method for the determination of toner cartridge yield for monochromatic electrophotographic printers and multi-function devices that may contain printer components" to "Information technology — Method for the determination of toner cartridge yield for monochromatic electrophotographic printers and multi-function devices that contain printer components".

## Introduction

The purpose of this International Standard is to provide a process for determining the page yield for toner cartridges for monochromatic printers using a standard office consumer type test page.

This standard prescribes the following:

- The test method that manufacturers should 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 documentation supplied to the consumer by the manufacturer.

The end of life is judged with either of two phenomena - "image fade" caused by toner depletion of the cartridge in the printing system or "automatic printing stop" by the Toner Out detection function.

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

## 1 Scope

The scope of this International Standard is limited to evaluation of toner cartridge yield for toner containing cartridges (i.e. all-in-one toner cartridges and toner cartridges without a photoconductor) for monochrome electrophotographic printers. This International Standard could also be applied to the printer component of any multifunctional device that has a digital input-printing path (i.e. multi-function devices that contain printer components).

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

**NOTE** Application of this International Standard 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 International Standard 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 International Standard.

## 2 Terms and definitions

For the purposes of ISO 19752, the following terms and definitions apply.

### 2.1

#### **Fade**

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

**NOTE** 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, please consult Annex A.

### 2.2

#### **Shake Procedure**

in the case that the cartridge user's manual instructs cartridge shaking and its method, shaking the cartridge according to the procedures specified

**NOTE** If a shake procedure is used in testing it will be noted in the report.

### 2.3

#### **Toner Low**

a signal generated by the printer when it has been detected that the amount of toner is such that a toner change will be required soon

**NOTE** It does not indicate that the system is out of toner.