
**Method for the determination of toner
cartridge yield for colour printers and
multi-function devices that contain
printer components**

*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*

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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 19798 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 28, *Office equipment*.

This second edition cancels and replaces the first edition (ISO/IEC 19798:2006), of which it constitutes a minor revision.

Introduction

The purpose of this International Standard is to provide a process for determining the cartridge page yield for a given colour electrophotographic printer model (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.

This International Standard 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; and
- the appropriate method of describing the yield of cartridges in 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 International Standard will be used for the measurement of one of the contributions to cost per page (CPP). This International Standard 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.

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

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

ISO/IEC 19752, *Information technology — Method for the determination of toner cartridge yield for monochromatic electrophotographic printers and multi-function devices that contain printer components*