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**Information technology — Office  
equipment — Method for measuring  
digital printing productivity**

*Technologies de l'information — Équipements de bureau — Méthode  
de mesure de la productivité d'impression numérique*

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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 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)).

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. 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](http://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 WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

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

This second edition cancels and replaces the first edition (ISO/IEC 24734:2009), of which it constitutes a minor revision.

## Introduction

Many digital printing devices produce printed pages at a different rate than their nominal speed when running with different modes (simplex, duplex, print quality modes), different substrate weight, system environments, applications and file content, and finishing options. The degree to which a reduction in productivity is experienced depends significantly on multiple parameters of the job workflow. The most dominant of the parameters of the job workflow are: system environment, application, and job characteristics, such as, the number of pages in a set to be printed, single-sided or double-sided output pages, quality mode, number of print sets to be produced, substrate weight/size used, finishing options, and job content complexities such as monochrome vs. colour, text/vector vs. raster, page scaling, and colour conversion. The existing International Standard (ISO/IEC 10561) only addresses printing throughput for class 1 and class 2 printers and, therefore, is not suitable for comparing colour printing devices or high-speed page-oriented printing devices with many finishing options and connectivity configurations.

This International Standard provides a general method for measuring the productivity when the above-mentioned job workflow parameters for digital printing devices are taken into consideration. This International Standard also includes a suite of test files, test-platform (hardware and software) setup guidelines, and a procedure to be used for measuring digital printing productivity. It allows manufacturers and buyers of digital printing devices to describe the productivity of various digital printing devices with respect to representative office usage patterns.



# Information technology — Office equipment — Method for measuring digital printing productivity

## 1 Scope

This International Standard specifies a method for measuring the productivity of digital printing devices with various office applications and print job characteristics. This International Standard is applicable to digital printing devices, including single-function and multi-function devices, regardless of print technology (e.g. inkjet, laser). Devices can be equipped with a range of paper feed and finishing options either directly connected to the computer system or via a network. It is intended to be used for black and white (B&W) as well as colour digital printing devices. It allows for the comparison of the productivity of machines operating in various available modes (simplex, duplex, size of substrates, etc.) and office applications when the test system environment, operating modes, and job mix for each machine are held identical. This International Standard includes test files, test setup procedure, test runtime procedure, and the reporting requirements for the digital printing productivity measurements.

This International Standard is not intended to be used for devices which are not able to print on a media size of A4/8.5"x11" or for devices, which are not able to collate multiple copies of a print.

This International Standard is not intended to replace a manufacturer's rated speeds.

The productivity of a digital printing device depends on factors other than the printing device itself. These include, but are not limited to, computer manufacturer and model, central processor type and speed, RAM and hard disk memory capacity and speed, software driver, version of the application being used, operating system, and the type and speed of the communication path from computer to printing device, etc. Because of this, in order to make useful and accurate direct comparisons of printing productivity with this International Standard, the same computer system hardware and software have to be used for measuring the printing devices, if, for the purpose of being directly compared one to another. For every printing productivity measurement, the basic specifications of the computer hardware and software have to be included with the results of the printing productivity measurement.

**NOTE** There are other factors that influence the number of prints that a person can make on a printing device within a defined time period. These factors include typical job portfolio that is printed on a particular printing device, reliability of the system, downtime due to a service call, ease-of-use, (un)loaded paper during printing, routine maintenance, interaction with other users of the printing device and the network, etc. Such productivity items are not taken into account within the scope or methods of this International Standard.

## 2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 2.1

#### category test

test pertaining to one of two separate categories: Office category and Advertising and Graphics category, whereby the Office Category test is used to test and report FSOT, ESAT, and EFTP using content from typical office applications and the Advertising and Graphics Category test is used to test and report FSOT, ESAT, and EFTP using applications and files representing more complexity, higher coverage, and a higher ratio of image and graphic content such as pictures, gradients, and embedded elements

### 2.2

#### collation

printing device's capability to produce multiple hard copies of an electronic document in repeating original order, such as 1234, 1234, 1234, etc, which can be achieved through either software features that ensure proper output order or via a hardware finishing device