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BSI Group Headquarters

389 Chiswick High Road London W4 4AL

Tel: +44 (0)20 8996 9000

Fax: +44 (0)20 8996 7400

www.bsigroup.com

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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

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UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



DRAFT International Standard

ISO/IEC DIS 21117

Information technology — Office equipment — Information to be included in specification sheets and related test methods for copying machines and multi-function devices

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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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 21117 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 21117:2005), which has been technically revised.

Information technology — Office equipment — Information to be included in specification sheets and related test methods for copying machines and multi-function devices

1 Scope

This document specifies the information to be listed in specification sheets for electrophotographic digital copying machines and multi-function devices. The intention of this International Standard is to allow purchasers and users to compare the characteristics of different models of copying machines and multi-function devices so that they can more easily select copying machines and multi-function devices that meet their requirements.

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 7779, *Acoustics — Measurement of airborne noise emitted by information technology and telecommunications equipment*

ISO 9296, *Acoustics — Declared noise emission values of information technology and telecommunications equipment*

ISO/IEC 24734, *Information technology — Office equipment — Method for measuring digital printing productivity*

ISO/IEC 24735, *Information technology — Office equipment — Method for measuring digital copying productivity*

ISO/IEC 29183, *Information technology — Office equipment — Method for measuring digital copying productivity for a single one-sided original*

ISO/IEC 17629, *Information technology — Office equipment — Method for measuring first print out time for digital printing devices*

ISO/IEC 17991, *Information technology — Office equipment — Method for measuring scanning productivity of digital scanning devices*

JIS B0137, *Glossary of terms for indirect method electrostatic process copying machines*

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 <http://www.electropedia.org>

3.1**TEC****typical electricity consumption**

electricity consumed by the device while in typical mode during a week period of time specified in ENERGY STAR program

3.2**OM****operational mode**

method to quantify the power consumption of imaging products that do not utilize the TEC method specified in ENERGY STAR program

Note 1 to entry: Examples of products that will be tested with this OM method include those that use marking technologies such as Ink Jet, Dot Matrix or Impact, as well as scanners and all large-format and small-format devices. The key results of this test procedure are power values for Ready, Sleep, and Off modes.

4 Information to be included in specification sheets

[Table 1](#) defines a name and a short description for each parameter entry. These constitute the information to be included in specification sheets. Furthermore, test and measurement methods are defined for parameters where applicable in the “Definitions and methods of measurement” column. Specification sheets shall use the parameter names listed in [Table 1](#). Specification sheets shall include all applicable parameters in the given order. Parameters that do not function, however, may be omitted.

NOTE When extracting parameters and specification values from specification sheets for use in catalogs, there are no particular provisions on the parameter numbers or on the order in which the parameters are listed.

5 Specification sheets**5.1 Main unit**

Refer to [Annex A](#).

5.2 Option devices

- a) document feeder: refer to [Annex B](#).
- b) auxiliary paper-supply devices: refer to [Annex C](#).
- c) sorters: refer to [Annex D](#).
- d) finishers: refer to [Annex E](#).

5.3 Extended functions

- a) scanner function: refer to [Annex F](#).
- b) printer function: refer to [Annex G](#).
- c) facsimile function: refer to [Annex H](#).
- d) e-mail / internet facsimile function: refer to [Annex I](#).

6 Test and measurement methods

6.1 Test and measurement conditions

The test environment, including temperature and humidity, shall be within the ranges recommended by the manufacturer for operating the device. If no recommendation is available, the following ranges shall apply.

Temperature: $23\text{ °C} \pm 5\text{ °C}$

Relative humidity: $(50 \pm 20)\%$

Supply voltage: rated input voltage

Supply frequency: rated frequency

Paper size: A4

Paper grammage: 60 g/m² to 90 g/m²

If a different paper size other than A4 is used, the size should be stated in the specification sheets. The paper used in the tests shall be conditioned under the environmental conditions given above.

6.2 Test and measurement methods

Test and measurement method for each parameter is specified in [Table 1](#).

Table 1 — Parameters to be included in specification sheets

Parameter	Description of the entry Remarks and examples	Definitions and methods of measurement
1 Main unit	Refer to Annex A .	
1.1 Name	Product name and model number.	
1.2 Type	States if the machine is a portable, desktop, or floor-standing (console) type and if the machine is an all-in-one or multi-component type.	
1.3 Copying method	Digital electrophotographic	
1.4 Colour	States if single-colour or full-colour copying is supported for machines that support colour copying.	
1.5 Type of photoreceptor	Organic material, a-Si or Selenium.	
1.6 Scanning light source	States the type of light source used for scanning and its rated power consumption in watts.	
1.7 Type of platen	Moving or stationary. If no platen is provided and the original is fed into the machine by hand or with a document carrier, indicate the platen as "feed-through".	
1.8 Scanning method	States the method by which originals are scanned and the type of scanning device.	
1.9 Writing method	States the method by which the latent image is written to the photoreceptor.	
1.10 Developing method	Mono or dual components.	
1.11 Copy density adjustment	Manual or automatic. If manual, indicate the adjustment method, such as continuous or discrete.	

Table 1 (continued)

Parameter	Description of the entry Remarks and examples	Definitions and methods of measurement
1.12 Fixing method	Heat-roller, flash, oven, or pressure fixing.	
1.13 Paper-supply device/paper-supply capacity	States the paper-supply method (automatic or manual) and the number of cassettes, decks, and trays (attached to the main unit). Also, indicate the loading capacity in sheets for each cassette, deck, and tray for a defined paper grammage (in g/m ²). If there are multiple pickup trays, indicate the loading capacity for each pickup tray. For machines that use roll sheets, list the width and length of roll sheets.	
1.14 Scanning resolution	States the main and sub scanning resolutions as needed, expressed in "dpi" or "dpi (number of dots/25.4 mm)". If it has resolution enhancement, should be indicated. Example: Optical resolution: 1,200 x 1200 dpi	
1.15 Writing resolution	States the main and sub write resolution, expressed in "dpi" or "dpi (number of dots / 25.4 mm)". Writing resolution equals to the print engine's native addressability. Example: 1,200 x 1200 dpi	
1.16 Scan colours	The tones may be specified Example: 24-bit colour (8-bits per colour plane)	
1.17 Acceptable originals	Lists sheets, books, computer forms, and other acceptable originals.	
1.18 Copy paper	Indicates any specially processed copy paper that is used. Also, states the paper grammage that can be transported in the machine. The recommended unit is g/m ² .	
1.19 Original sizes	States the maximum size in millimetres. ISO size such as A3, B4 can be stated. The specification sheet should indicate any limitations on the thickness of originals as well as the maximum weight that can be placed on the platen.	
1.20 Copying dimensions	States the maximum and minimum dimensions that can be copied in millimetres. ISO size such as A3, B4 can be stated. If the copying size varies by the paper-supply method (manual or automatic), this is indicated.	
1.21 Non-image area	Non-image area is the area that cannot be copied on when copying an original without margins on a given paper size. States in millimetres the width of the non-copy area at the top, bottom, and side of the page.	The non-image areas at each edge shall be indicated. The non-image areas shall be measured from the top, bottom, and sides of the copy paper to the image, copied under normal usage conditions.

Table 1 (continued)

Parameter	Description of the entry Remarks and examples	Definitions and methods of measurement
1.22 Possible enlargement and reduction	Indicates the possible enlargement and reduction expressed as a normalized ratio to the length of the original. The ratio is stated for enlarged copies, reduced copies, and direct (1:1) copies to two decimal places. Express the error deviation of direct (1:1) copying as a percent. The deviation percentage (%) shall be the maximum deviation, including variations between machines of the same model.	
1.23 Number of continuous copies	Indicates in pages the maximum number of copies that can be set for continuous copying when the machine operates as a copying machine.	
1.24 Continuous copying speed	States the number in pages/minute that can be made under normal usage conditions (A4 paper, 1:1 magnification, and standard feed direction) in continuous copying mode. Specify if copying speeds vary by paper size. For colour copying machines, specify the copying speeds for both colour copying and monochrome (black and white) copying. Specify if copying speeds vary by copying process. Each respective copying speed should be indicated. The number of copies is expressed in Copies Per Minute (CPM) in the following formats. a) Less than 10 CPM: Round off to two decimal places and express as two significant figures: X.X b) 10 CPM to 99 CPM: Express with either of the methods below: 1) Round off to one decimal place and express as two significant figures: XX 2) Round off to two decimal places and express as three significant figures: XX.X c) 100 CPM or more: Round off to one decimal place and express as three significant figures: XXX ISO/IEC 24735 can be used to describe the copying productivity of copier and MFP devices. (See parameter 1.42 Copying Productivity)	The machine shall be set to copy 11 copies under normal usage conditions (A4 paper, 1:1 magnification, and standard feed direction). Measure the time (that is, obtain the value t in seconds) from when the first copy is fully ejected to when the 11th copy is fully ejected. This value shall be converted into the number of copies per minute with the following equation: $60 \div (t/10) = \text{the number of copies per minute}$ For continuous passed pages, a number of pages equivalent to the number of copies per minute + 1 may be passed. In this case, "10" in the equation above is replaced with "number of passed pages – 1".