
**Quality and performance of office
equipment that contains reused
components**

*Qualité et performance d'équipement de bureau qui contient des
composants réutilisés*

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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 24700 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 28, *Office equipment*.

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Introduction

This International Standard, which applies to office equipment that contains reused components, defines a way to describe office equipment products that ensures that the quality and performance of such products is equivalent to new, independent of whether the product contains reused components that have been reprocessed to original product specifications. This International Standard also ensures that the equipment continues to meet current applicable international equipment safety and environmental standards. This International Standard may be useful for the procurement, selling and marketing of equipment in today's world where a) governments are promoting the use of recyclable resources to achieve waste reduction and conservation of resources; b) industry recognizes the environmental benefits and potential cost savings of reuse; and c) customers need assurance that products containing reused parts perform equivalent to new and meet applicable safety standards. It complements governmental regulations and sales and marketing information in communicating the office equipment's quality and performance and the environmental responsibility of the supplier. This International Standard is complementary to other International Standards dealing with quality systems and performance.

This International Standard is purposefully technology-neutral. When its model and supporting methodology are combined with regulatory and procurement requirements, it yields an approach to describe equipment, regardless of its product content. This International Standard provides a user / consumer perspective and will be useful in answering questions such as:

- Does this office equipment that contains reused components perform equivalent to equipment containing all new components?
- How does this office equipment meet the technical, safety, and environmental requirements of my organization?

This International Standard is suitable for conformity assessment. As such, this International Standard can be applied by a supplier or first party (e.g. the manufacturer of a product), a user or purchaser (second party), and/or a third party qualified as an authorized third party. The Technical Committee that developed this International Standard considered the related International Standards and Guides pertaining to conformity assessment. The sample requirements of the normative references should be followed in order to meet the sample requirements of the conformity assessment.

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Quality and performance of office equipment that contains reused components

1 Scope

This International Standard specifies product characteristics for use in an original equipment manufacturer's or authorized third party's declaration of conformity to demonstrate that an office equipment product that contains reused components performs equivalent to new, meeting equivalent to new component specifications and performance criteria, and continues to meet all the safety and environmental criteria required by responsibly built products. The International Standard is relevant to office equipment products whose manufacturing and recovery processes result in the reuse of components. Annex C has a description of how reuse relates to other recycling processes.

This International Standard specifically addresses office equipment. Consumable items such as customer replaceable toner cartridges are not in the scope of this International Standard. Equipment reprocessed by the original manufacturer or an authorized third party that does NOT meet the equipment's original design performance specification is not in the scope of this International Standard. This International Standard is applicable to:

- A situation in which a government requires a neutral benchmark to evaluate the quality, safety and performance of equipment that contains reused components and to demonstrate the environmental responsibility of the supplier. When regulations mandate a neutral benchmark for equipment, this International Standard provides the benchmark for proving compliance with such regulation.
- A situation in which a commercial supplier requires a neutral benchmark to demonstrate and communicate the quality, safety and performance of equipment that contains reused components and to demonstrate the environmental responsibility of the supplier.
- Situations in which consumers require a neutral benchmark to identify or distinguish environmentally responsible products.

This International Standard reflects the world's current approaches that yield products from many manufacturing processes including the reuse of components, with the equipment's warranties and guarantees playing an important role in the market acceptance. In today's procurement processes, technical equipment definitions used by the regulators must be addressed and, in that sense, this International Standard will be useful in procurement and, in the trade facilitation area, to communicate with the regulators. This International Standard specifically addresses office equipment. However, in the future it may provide valuable directions for other industries and industrial sectors.

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 9001, *Quality management systems — Requirements*

ISO 14001, *Environmental management systems — Specification with guidance for use*

ISO/IEC 17050 (all parts), *Conformity assessment — Supplier's declaration of conformity — Part 1: General Requirements; Part 2: Supporting documentation*

EN 60950, *Safety of Information Technology Equipment*

CISPR 14, *Electromagnetic Compatibility — Requirements for household appliances, electric tools and similar apparatus — Part 1: Emission — Product Family Standard; Part 2: Immunity — Product family standard*

CISPR 22, *Information Technology Equipment — Radio Disturbance Characteristics — Limits and methods of measurement*

CISPR 24, *Information Technology Equipment — Immunity Characteristics — Limits and methods of measurement*

IEC 61000, *Electromagnetic compatibility (EMC) — Part 3-2: Limits — Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)*

IEC 61000, *Electromagnetic compatibility (EMC) — Part 3-3: Limits — Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 17050, EN 60950, CISPR 14, CISPR 22, CISPR 24, IEC 61000, ISO 9001 and ISO 14001 and the following, apply.

3.1 Conformity assessment: Any activity concerned with determining directly or indirectly that relevant requirements are fulfilled.

3.2 Supplier's declaration: Procedure by which a supplier gives written assurance that a product, process or service conforms to specified requirements.

NOTE The supplier is the party that supplies the product, process or service and may be a manufacturer, distributor, importer, assembler, service organization, etc. In order to avoid any confusion, the expression "self-certification" should not be used.

3.3 Office equipment: Printers, copying equipment, digital scanners, facsimile equipment and systems composed of combinations of these types of equipment.

4 Office equipment requirements

4.1 Performance

The equipment must be assured, by the original equipment manufacturer or authorized party, to perform per the original product design specifications as documented by the original manufacturer in its product literature and warranties.

This means that the equipment, when comprised of reused parts should have the same cosmetic, functional and performance characteristics as the equipment when comprised of all new parts.

4.2 Upgrades

The equipment must be manufactured using components that, if functionally critical, represent the most up-to-date specification of the components, regardless of whether or not the components are new or reused.

NOTE This means that the equipment that contains reused parts must be upgraded with components that significantly affect the function of the equipment. An example might be an upgraded electronic board, with changes that fix a problem discovered soon after product introduction.

4.3 Testing

The equipment must be tested using the equivalent procedures as defined by the manufacturer regardless of whether or not the product contains all new components or if it contains reused components.

4.4 Quality

If the equipment is originally manufactured in an ISO 9001 certified factory, then this condition must be maintained. Factory certification to the ISO 9001, *Quality management systems — Requirements* may ensure that the product conforms to the product's established design.

4.5 Safety and electromagnetic emissions

The equipment must meet, at a minimum, the requirements of the international product safety International Standard IEC 60950, *Safety of Information Technology Equipment*.

The equipment must also meet, if applicable to the equipment type and required by the market in which the product is sold, the requirements of the following standards:

CISPR 14, *Electromagnetic Compatibility — Requirements for household appliances, electric tools and similar apparatus — Part 1: Emission — Product Family Standard; Part 2: Immunity — Product family standard*.

CISPR 22, *Information Technology Equipment — Radio Disturbance Characteristics — Limits and methods of measurement*.

CISPR 24, *Information Technology Equipment — Immunity Characteristics — Limits and methods of measurement*.

IEC 61000, *Electromagnetic compatibility (EMC) — Part 3-2: Limits — Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)*.

IEC 61000, *Electromagnetic compatibility (EMC) — Part 3-3: Limits — Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection*.

4.6 Warranties/Guarantees

The equipment's warranties and guaranties must apply equally to equipment manufactured of all new components and to equipment that contains reused components.

4.7 Service

Service agreements offered to customers must be equivalent regardless of whether or not the equipment contains all new components or if it contains reused components.

4.8 Environmental responsibility

If the equipment is originally manufactured in an ISO 14001 certified factory, then this condition must be maintained. Factory certification to the ISO 14001, *Environmental Management System* may ensure a commitment to continuous improvement in environmental performance.