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Information technology — Office equipment accessibility guidelines for elderly persons and persons with disabilities

Technologies de l'information — Lignes directrices pour l'accessibilité à l'équipement de bureau par les personnes âgées et par les personnes avec un handicap

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Contents

Page

Foreword ... iv

Introduction ... v

1 Scope ... 1

2 Normative references ... 1

3 Terms and definitions ... 1

4 Principles ... 2
4.1 Basic policies ... 2
4.2 Basic requirements ... 3
4.3 Recommended requirements ... 6

5 Requirements for operation ... 6
5.1 Scope of accessible functions and specifications ... 6
5.2 Alternative accessibility function requirements ... 7
5.3 Requirements for operation to be considered ... 7
5.4 Requirements for operation display ... 8
5.5 Requirements for mechanical operable controls ... 10
5.6 Requirements for terms ... 11
5.7 Alternate methods ... 11
5.8 Requirements for information security ... 11
5.9 Requirements for maintenance such as care and parts replacement by users ... 12

6 Basic requirements for planning, development, and designing ... 12
6.1 General ... 12
6.2 Disclosure of information related to accessibility ... 12
6.3 Requirements for evaluation ... 12
6.4 Requirements for user feedback ... 12
6.5 Requirements for user support ... 13

Annex A (normative) **Basic functions and operation** ... 14

Annex B (informative) **Advanced functions and operation** ... 18

Bibliography ... 23

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Foreword

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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 10779 was prepared by the Japanese Industrial Standards Committee (as JIS X 8341-5:2006) and was adopted, under a special “fast-track procedure”, by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, in parallel with its approval by the national bodies of ISO and IEC.

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Introduction

With the progress of the information society, people will increasingly use information communication equipment, software, and services such as the Internet that are made possible by information communication technology.

This International Standard has been developed as guidelines to assist in the design and evaluation of office equipment for operation by persons with the widest range of capabilities, including persons with disabilities and persons with temporary disabilities.

This International Standard specifies features to provide guidance for designers of office equipment, based on ISO/IEC Guide 71:2001, *Guidelines for standards developers to address the needs of older persons and persons with disabilities* and ISO 9241-20, *Ergonomics of human-system interaction — Part 20: Accessibility guidelines for information/communication technology (ICT) equipment and services*.

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Information technology — Office equipment accessibility guidelines for elderly persons and persons with disabilities

1 Scope

This International Standard specifies accessibility guidelines to be considered when planning, developing and designing electrophotographic copying machines, page printers and multi-function devices. These guidelines are intended to improve accessibility required when primarily older persons, persons with disabilities and persons with temporary disabilities (hereafter referred to as older persons and persons with disabilities) use office equipment.

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 Guide 71:2001, *Guidelines for standards developers to address the needs of older persons and persons with disabilities*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC Guide 71 and the following apply.

3.1
multi-function device
device providing two or more functions, such as electrophotographic copying, facsimile, printing and scanning functions

3.2
accessibility
usability of office equipment by persons with the widest range of capabilities, including persons with disabilities and persons with temporary disabilities

NOTE The concept of accessibility addresses the full range of user capabilities and is not limited to users who are formally recognized as having disability.

3.3
ergonomics
human factors
biological characteristics that can validly be applied to the specification, design, evaluation, operation and maintenance of products and systems, to enhance safety, and ensure effective and satisfying use by individuals, groups and organizations

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3.4
assistive technology
assistive design
piece of equipment, product system, software or service that is used to increase, maintain or improve functional capabilities of individuals with disabilities

NOTE This can be acquired commercially off-the-shelf, modified or customized. The term includes technical aids for persons with disabilities. Assistive devices do not eliminate an impairment but can lessen the difficulty experienced by an individual in carrying out a task or activity in specific environments.

3.5
impairment
problem in body function or structure such as a significant deviation or loss, which can be temporary – due for example to injury – or permanent, slight or severe and can fluctuate over time, in particular deterioration due to aging

NOTE 1 Body function can be a physiological or physiological function of a body system; body structure refers to an anatomical part of the body such as organs, limbs and their components (as defined in the International Classification of Functioning and Disability (ICIDH-2) of July 1999).

NOTE 2 This definition differs slightly from that in ICIDH-2 1CH, May 2001, WHO.

3.6
user
person who interacts with the product, service or environment

NOTE Adapted from ISO 9241-11:1998.

3.7
usability
extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use

[ISO 9241-11:1998]

4 Principles

4.1 Basic policies

The basic policies which shall be followed with respect to office equipment in order to ensure and improve accessibility are as follows.

a) During the planning, development, and designing phases for office equipment, consideration shall be given to ensure that older persons and persons with disabilities are able to use the equipment.

b) During the planning, development, and designing phases for office equipment, consideration shall be given to user needs, accessibility shall be evaluated, and the result of this evaluation shall be reflected in the equipment design and implementation.

c) The accessibility feature of office equipment should not disrupt or disable any safety feature of the office equipment.

d) Even when accessibility features are added, it should not disrupt and disable any functions that were activated previously.

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4.2 Basic requirements

4.2.1 General

In order to ensure and improve the accessibility of office equipment, the following basic requirements related to the physical abilities of users shall be considered.

However, guideline does not require office equipment to comply with all the basic requirements, but does require that the office equipment complies with at least one of them.

NOTE Two types of features may be used to satisfy the requirements: common functions and alternate functions.

— Common functions: These functions are commonly used by a variety of users.

— Alternate functions: These are used as alternatives to specific functions. For instance, voice-based functions used as an alternative to displaying would be considered an alternate function.

4.2.2 Operable with limited vision or without vision

Office equipment shall be operable even when it is difficult to obtain information through vision.

Since users with visual disabilities, color blindness, reduced visual acuity due to aging, and other such conditions may have difficulty in locating the positions and functions of operable controls, keys, switches, and other objects, alternate methods should be provided for users with limited vision and/or without vision.

EXAMPLE 1 Auditory feedback as well as visual information are provided to notify users of an operating state or an error.

EXAMPLE 2 The 5 key on a numeric keypad has a tactile label (nib).

EXAMPLE 3 Important keys for operations, such as a Start key and Stop key, are shaped differently so that they can be identified by touch.

EXAMPLE 4 Operable controls such as operation handles and guides are tactilely discernible due to their unique shape or tactile marks.

EXAMPLE 5 Power switches and other similar important keys are designed with some type of obstruction such as protective barrier around the keys or to be located in a recess so that they may not be pressed accidentally.

EXAMPLE 6 An end corner reference is provided on the document setting position, so that users can place a document on the original platen glass by touch.

EXAMPLE 7 The lines indicating the maximum capacity of documents that can be loaded into the automatic document feeder's document tray, and the maximum capacity of sheets of paper that can be loaded into the paper feed tray or paper cassette, are tactile as well as visible.

EXAMPLE 8 Auditory signals, such as input, invalid input, and base point tones are used for key operation feedbacks.

EXAMPLE 9 The office equipment has an auditory signal at the base point position when using toggle keys.

EXAMPLE 10 Black and white reversed screen display is provided so that the display is easier to view for users with impaired or limited vision.

EXAMPLE 11 A magnified view of information on the display is provided.

EXAMPLE 12 Display methods whereby the only methods of providing information in one location is through a change in color are not to be used.

EXAMPLE 13 Operation using voice recognition or voice guidance is provided.

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4.2.3 Operable with limited hearing or without hearing

Office equipment shall be operable even if it is difficult to obtain auditory information.

In the case where information is only provided auditorily, this information may be lost due to hearing impairments, noisy environments, or environments where sound is forbidden. For this reason, alternate methods should be provided to users with limited hearing and/or without hearing.

EXAMPLE 1 Visual information such as screen display as well as auditory information are provided to notify users of an operating status or equipment error.

EXAMPLE 2 Notification of the facsimile function's reception, paper supply, paper jam, and other issues is provided with visual information such as a light , blinking indicator or status indication on a screen, as well as auditory information.

4.2.4 Operable even when operation through speech is difficult

Office equipment shall be operable even when operation through speech is difficult.

When the information use and operation by speech is a main function, alternate methods not requiring speech shall be provided.

EXAMPLE Equipment operated by voice recognition is operable through key input as well.

4.2.5 Operable with limited reach

Office equipment shall be operable with limited reach.

EXAMPLE 1 The display is set in a legible position and the operable controls are set in a position where input operations through keys entries and other methods are possible, regardless of differences in height of users.

EXAMPLE 2 The position and angle of operable controls are adjustable for users. For instance, an angle of the control panel is adjustable.

EXAMPLE 3 The main operable controls of office equipment are designed in positions to allow operation by as many users as possible.

EXAMPLE 4 Removing copy sheets from the copy-receiving tray is easy regardless of user's physique.

4.2.6 Operable with physical low strength or fine motor control

Office equipment shall be operable or usable for people who do not have significant physical strength or fine motor control.

The mechanically operable controls of equipment shall be easy to operate without excessive force or the need for delicate operations.

Since a required force varies depending on the shape and size of an operable control; the shape, size, and force required for operable controls shall be considered from a comprehensive standpoint.

EXAMPLE 1 Operable controls do not require tight grasping, pinching, or twisting of the wrist.

EXAMPLE 2 The paper feed tray and automatic document feeder are designed with springs, levers, electric motors, or other methods to reduce the operational power required for opening and closing.

EXAMPLE 3 The paper guide or the document guide is easy to align with the paper or document, even if users lacks physical strength or control capability.

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4.2.7 Operable irrespective of lower body impairments

Office equipment shall be operable by persons with lower body impairments.

EXAMPLE 1 Users can operate the equipment without crouching.

EXAMPLE 2 The office equipment has handles that can be used to support users.

EXAMPLE 3 The office equipment is operable with one hand, considering users who use crutches and other such aids.

EXAMPLE 4 The office equipment is operable by remote control as well as the control panel.

4.2.8 Operable by wheelchair user

Office equipment shall be operable from a seated position such as from a wheelchair.

The display of equipment should be placed at a legible position, and the operable controls should be placed in a position that can be reached with the hands, so that those who use wheelchairs can operate the office equipment from a seated position. Otherwise, alternate methods shall be provided.

EXAMPLE 1 The control panel is in the front of the main unit.

EXAMPLE 2 The control panel's angle is adjustable to users.

EXAMPLE 3 The operable controls and scanner is separable from the device to put them on the desk.

EXAMPLE 4 For desktop office equipment where the office equipment is placed on a desk 700 mm above the floor, the operable controls are within the reach of users and at a distance from which they are legible.

EXAMPLE 5 For office equipment located on the floor, the paper feed tray or at least one paper cassette is positioned 380mm or higher above the floor.

EXAMPLE 6 A wheelchair user can stop the position of ADF(automatic document feeder) or platen cover when opening and closing at any position and the device will maintain that position for the user.

EXAMPLE 7 Users can operate the office equipment from wheelchair alongside the office equipment with one hand only, and simultaneous operations with two hands are not required.

EXAMPLE 8 The office equipment is operable with remote control devices as well as the main body’s control panel.

EXAMPLE 9 Automatic document feeder trays and other such trays are transparently colored so that documents are visible through the trays.

4.2.9 Operable with either hand

Office equipment shall be operable with either hand.

Office equipment shall be operable with one hand and/or shall not require two hands for normal operation, such as operations requiring users to operate a lever with one hand while supporting an object with the other hand.

EXAMPLE 1 Operable controls are operable with either hand, left or right.

EXAMPLE 2 Input operations do not require multiple keys to be pressed simultaneously.

EXAMPLE 3 The automatic document feeder can stop at any user's desired position, so that users can set a document on the original platen glass with one hand.

EXAMPLE 4 Paper guide and document guide are set with one hand easily.

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4.2.10 Operable with limited mobility in the arms, legs, fingers, or with artificial limbs

Office equipment shall be operable with limited mobility in the arms, legs, fingers, or with artificial limbs.

Even when muscular weakness, paralysis, trembling hands, involuntary movements, and other causes make it difficult for users to accurately press controls such as buttons, keys, and switches, the office equipment should be operable with one hand, without requiring simultaneous combination operations.

EXAMPLE 1 Operable controls do not require tight grasping, pinching, or twisting of the wrist.

EXAMPLE 2 The main operation keys are designed as large as possible, with the surface of keys shaped concavely.

EXAMPLE 3 The Start key has a key guard in order to prevent inadvertent operation.

EXAMPLE 4 The input controls of the touch screen use technology that recognize operations with such as artificial hands.

EXAMPLE 5 The areas surrounding operable controls is left vacant, with space roughly equivalent to the size of a fist.

4.3 Recommended requirements

The following requirements are recommended for ensuring and improving the accessibility of office equipment.

a) Office equipment should be operable without an excessive burden placed upon cognitive or memory abilities.

b) Office equipment should be operable irrespective of cultural and linguistic differences.

   EXAMPLE The language of operable controls is selectable appropriate to users.

c) Office equipment should be operable by users without previous experience.

   EXAMPLE This provision does not apply to office equipment that requires professional training in order to learn how to operate the device.

EXAMPLE 1 Voice instructions can guide users in the operation of the office equipment.

EXAMPLE 2 The basic functions of the office equipment are operable intuitively without reference to the manual.

5 Requirements for operation

5.1 Scope of accessible functions and specifications

The basic functions of office equipment shall meet the accessibility requirements specified in these guidelines. Other expanded functions are within the scope of recommendation.

The functions of multifunction devices include copying, facsimile, printing, scanning, etc. The following provisions cover each scope of operation:

a) Basic functions and scope of operation are given in Annex A (normative).

b) Expanded functions and scope of operation are given in Annex B (informative).

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5.2 Alternative accessibility function requirements

Nothing in this standard is intended to prevent the use of designs, functions, or technologies as alternatives to those prescribed in these guidelines provided they result in substantially equivalent or greater access to and use of a product for older persons and persons with disabilities.

EXAMPLE 1 Users who are blind or visually impaired can operate office equipment using voice command without using the control panel due to voice recognition technology, the LCD touch screen of the office equipment is otherwise inoperable by these users.

EXAMPLE 2 By connecting other information technology (such as personal computers that has accessibility features) to the office equipment such as multifunction device and printer , it is possible to improve the accessibility of the office equipment.

5.3 Requirements for operation to be considered

Developers responsible for accessibility should plan, develop, and design office equipment with due consideration of the following requirements of user's task so that users can achieve their planned task.

See Annex A (normative) and Annex B (informative) for task details.

Furthermore, an overview of operations related to work requirements is given below.

a) Access to office equipment

Office equipments should be designed to minimize any obstructions so that users have access to and can operate the office equipment.

b) Operation procedures

Office equipment should provide user interfaces customizable based on the user's preference so that it is operable by the user.

c) Starting and ending operations

Office equipment should allow users to operate the start and stop controls independently. There are cases however, such as for facsimile, where the power is always on and the user therefore is not required to operate the power switch.

d) Confirmation of input and setting operations

Office equipment should provide multiple means for users to verify the input/setting result of their operations, so that this information is provided through at least two of the following senses: vision, hearing, and/or touch.

e) Consistency of operation

Office equipment should implement consistent and easy operation processes based on the user's perspective and behavioral characteristics so that these processes are more intuitive and easier to understand.

f) Adjustment of display/voice output

Where office equipment permits a user to adjust screen display or voice output settings, it should support functions for the user to adjust the settings according to user preference.

g) Timed response

Where office equipment requires a timed response from a user, it should inform the user in advance of time limit and provide notification as to whether or not the time limit is adjustable.

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h) Prevention of errors

Office equipment should be designed to minimize erroneous operation due to the user's physical abilities.

i) Reverting to the initial state

Office equipment should return to the initial state with a simple operation, even if an operational error occurs in the middle of an operation.

j) Operation during error

When office equipment is not functioning correctly, it should provide a method for a user to return the equipment to operable state, or should inform the user of the current status to contact a service person.

5.4 Requirements for operation display

5.4.1 Display requirements

Display requirements are as follows.

a) Text printed on operable controls shall be of an appropriate size and contrast.

b) A screen display device should support advanced functions such as character enlargement and contrast adjustment.

c) Color coding shall not be used as the only method of providing information.

EXAMPLE 1 The office equipment does not use color-coding as the only method of selecting/setting features, for example it combines other methods, such as text-labels, with the use of color.

EXAMPLE 2 The office equipment supports a combination of methods such as an indicator light on, off or flashing as well as the use of graphic symbols for status information on the display.

d) When colors are used in operable controls, the color schemes should enable users with color weakness to identify the controls easily.

e) When office equipment permits a user to adjust color and contrast settings, a range of color selections capable of producing a variety of contrast levels and color schemes should be provided.

f) Viewing from a seated position such as a wheelchair should be possible, or an alternate display method should be provided.

EXAMPLE A display having a position and angle which is viewable from a seated position is provided. The position or viewing angle of the display is considered to have its visibility.

g) When a blinking feature is used in the display, a blinking frequency not inducing photosensitive seizures should be used.

NOTE The U. S. accessibility standards for electronics and information technology require that a flashing or blinking frequency greater than 2Hz and lower than 55Hz shall not be used.

[See Section 508 Electronic and Information Technology Accessibility Standards (U. S. Rehabilitation Act, Section 508) (CFR Part 1194) 25(i)].

h) Still images and moving images on a personal computer display should be labeled with text describing the meaning of the images, when the office equipment is operated from a personal computer.

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5.4.2 Auditory information requirements

Auditory function, if provided, shall meet the following requirements.

a) When office equipment utilizes a voice output feature, the voice output should be listened to through commercially available headphones or earphones.

   Auditory signals are excluded.

b) When office equipment utilizes a voice output feature, the ON and OFF state of the feature should be discernible visually.

c) When office equipment utilizes a voice output feature, the ability to switch the device ON/OFF and adjust the volume should be possible.

NOTE Information According to the U. S. accessibility standards for electronic and information technology, when equipment delivers voice output in a public area, incremental volume control shall be provided with output amplification up to a level of at least 65 dB. Where the ambient noise level of the environment is above 45 dB, a volume gain of at least 20 dB above the ambient level shall be user-selectable. A function shall be provided to automatically reset the volume to the default level after every use. [Refer to Section 508 Electronic and Information Technology Accessibility Standards (U. S. Rehabilitation Act, Section 508) (CFR Part 1194) 25(f)].

d) When office equipment utilizes a voice output feature, it should be possible to interrupt, pause, and restart the voice output.

e) When auditory signals are used to draw user's attention, ISO and other standards should be followed.

NOTE When users do faulty operations (such as when the device is not operating correctly), the product can notify users in some manner.

5.4.3 Shape requirements

Shape requirements are as follows.

a) Keys important to operation, such as a Start key and Stop key, shall be visually discernible and discernible through touch.

EXAMPLE The 5 key on a numeric keypad has a protrusion to make it distinguishable.

b) Operable controls should be shaped so that they can be used by those with orthopedic impairments.

5.4.4 Operation requirements

Operation requirements are as follows.

a) When key repeat function is supported, the delay before repeat and the repeat rate should be adjustable.

NOTE According to the U. S. accessibility standards, if key repeat is supported, the delay before repeat shall be adjustable to at least 2 seconds. Key repeats rate shall be adjustable to 2 seconds per character. [Refer to Section 508 Electronic and Information Technology Accessibility Standards (CFR Part 1194) 23 (k) (3)].

b) Touch panel shall be operable even with aids such as prosthetic limbs.

EXAMPLE Electrostatic capacitance methods that do not work with prosthetic limbs are not used.

c) Timed response should not be required.

d) When a timed operation is required, the time should be adjustable.

NOTE When the time has run out, the office equipment should be able to alert the user.

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e) Office equipment shall be able to return to the initial state at any time during operations.

NOTE The initial state refers to the state resulting from canceling settings or shifting the mode through a reset key operation.

5.4.5 Feedback requirements

Feedback requirements are as follows.

a) Except for the touch panel, control switches and keys shall show status that are discernible through touch or hearing as well as vision.

EXAMPLE When toggle switches are used to select a function between a copying function, facsimile function, and scanner function, the selected function is visually discernible, and discernible both through touch and sound.

b) The on and off state of the power switch shall be visually discernible, and discernible either through touch or hearing.

5.5 Requirements for mechanical operable controls

5.5.1 Position requirements

Position requirements are as follows.

a) Floor-type office equipment shall be operable from a seated position, including from a wheelchair.

b) Floor-type office equipment shall have at least one paper feed tray in a position that is operable from a seated position, including from a wheelchair.

NOTE According to the U. S. accessibility standards, the operable controls on the following types of floor-type office equipment are to be positioned within measurement standards [See Section 508 Electronic and Information Technology Accessibility Standards (CFR Part 1194).25 (j)].

Independent-type products that are not portable, and which are designed to be installed and used, with an operable control device, shall comply with the following items:

— The position of any operable control shall be determined with respect to a vertical plane, which is 1220 mm in length, centered on the operable control, and at the maximum protrusion of the product within the 1 220 mm length.

— Where any operable control is 255 mm or less behind the reference plane, the height shall be 1 370 mm maximum and 380 mm minimum above the floor.

— Where any operable control is more than 255 mm and not more than 610 mm behind the reference plane, the height shall be 1 170 mm maximum and 380 mm minimum above the floor.

— Operable controls shall not be more than 610 mm behind the reference plane.

5.5.2 Shape requirements

Shape requirements are as follows.

a) The shape of operable controls shall be easily discernable.

NOTE The handle and the operation direction of operable controls are easily discernable.

b) Shape of operable controls shall be operable with one hand.

c) Shape of operable controls should be operable even when hands and fingers have restricted mobility

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5.5.3 Operation requirements

Operation requirements are as follows.

a) Operable controls should be operable with one hand.

b) Operable controls should be operable even when hands and fingers have restricted mobility.

c) Operable controls should not require tight grasping, pinching, or twisting of the wrist by a user.

EXAMPLE 1 When paper is supplied, and the paper feed tray is pulled out for storing paper, it is possible to perform this operation with impairments in the hands, which limit the range of movements.

EXAMPLE 2 The paper feed tray can be ejected with a button operation.

d) Office equipment should be operable with a suitable amount of force.

NOTE According to the U. S. accessibility standards, operational force shall be 22.2 N or less. [See Section 508 Electronic and Information Technology Accessibility Standards (CFR Part 1194).23 (k) (2)].

e) Compound operations such as pushing while turning shall be avoided for normal operation of the office equipment.

5.6 Requirements for terms

Easy-to-understand expressions and terms shall be used for operation-related terms, regardless of cultural and linguistic differences, and without requiring specialized knowledge. Descriptions of terms shall be provided as necessary.

EXAMPLE 1 When graphic characters such as pictographic characters are used, text-based notations are used as well.

EXAMPLE 2 Icons are used as well as texts.

EXAMPLE 3 Languages can be switched easily.

EXAMPLE 4 Specialized terminology and abbreviations are not used much.

5.7 Alternate methods

If specific product operations are difficult, then the following alternate methods shall be provided in order to enable the operations based on alternate physical abilities.

a) Assistive technologies should be provided as necessary to enable the operation of the product.

b) When alternate method can be connected and disconnected, the status should be confirmed through multiple methods.

c) When office equipment is operable with a personal computer, the necessary functions for users shall be operable with the keyboard or other such methods. In this case, ensure that assistive technology such as screen reader can be connected.

5.8 Requirements for information security

An operation method with security may be provided to access the information of office equipment.

However, when office equipment uses biometric techniques to identify users, it should provide alternative methods, configurable by the customer, to allow use by persons with disabilities.

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EXAMPLE 1 When physical characteristics such as fingerprints, voiceprints, and retina scans are used to identify users, alternate individual identification functions is provided without requiring any physical characteristics.

5.9 Requirements for maintenance such as care and parts replacement by users

The maintenance and parts replacement required for the continuous use of office equipment should be easily performed.

NOTE This requirement does not apply to office equipment such as copier machines which do not allow users to conduct maintenance (such as when it is difficult to ensure user safety).

EXAMPLE 1 Users can easily perform such tasks as supplying paper and replacing toner units.

EXAMPLE 2 Wheelchair users can easily supply paper.

6 Basic requirements for planning, development, and designing

6.1 General

In order to ensure and improve accessibility, the developer shall plan, develop, and design office equipments to meet the basic requirements under the provisions of these guidelines.

EXAMPLE 1 Developers utilize an accessibility checklist during the plan, design, and evaluation stages.

EXAMPLE 2 Developers set the goal considering older persons and persons with disabilities at product planning phase and have a usability test (by older persons and persons with disabilities) during the product development, and reflect the evaluation results to the product.

6.2 Disclosure of information related to accessibility

When users purchase and use office equipment, the provider of office equipment shall provide the user with information related to the accessibility of the office equipment, so that the user can easily select an office equipment with the appropriate accessibility features to match the user needs.

EXAMPLE 1 The corporation’s public web site can be used to obtain information related to the accessibility of office equipment.

EXAMPLE 2 Industry groups put information related to the accessibility of office equipment on their Web sites.

EXAMPLE 3 The corporation’s public web site can be used by screen readers.

6.3 Requirements for evaluation

The supplier of office equipment shall evaluate the accessibility of that equipment and shall provide a means to present the record of the evaluation upon request from users.

NOTE See Annex A (normative) and Annex B (informative) for the details of evaluation tasks.

6.4 Requirements for user feedback

Developer for office equipment should have contact points for gathering user feedback, and should reflect these feedbacks in ensuring and improving the accessibility of office equipment.

EXAMPLE 1 Methods for gathering information are established to improve the customer satisfaction level with respect to the accessibility of office equipment.

EXAMPLE 2 Customer service representatives with multiple communication methods such as telephone, TTY(Teletypewriter), facsimile and e-mail are provided.

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EXAMPLE 3 System gathering opinions from users on a web site and transmitting the opinions to the planning and development departments is established.

6.5 Requirements for user support

Customer service representatives or equivalent services should be provided to users. And, multiple access methods should be available to users to communicate with these services.

EXAMPLE 1 Another communication methods such as through facsimile and e-mail, as well as telephone is provided to support users, and it is provided when TTY(Teletypewriter) is being used.

EXAMPLE 2 The instruction manual is provided with text large enough for older persons to read without difficulty, and also is provided in an electronic medium.

EXAMPLE 3 Electronic documents are provided for visually impaired users to understand with screen reader software.

EXAMPLE 4 The information about the accessibility feature of the office equipment is provided to the related sales outlets, information service corporations, and caregivers as well.

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Annex A
(normative)

Basic functions and operation

A.1 Scope

This annex defines the details of basic functions and the scope of operation.

A.2 Basic Functions and the Scope of Operation

The target office equipment products are copying machines, multifunction devices, and page printers used in office environment.

The basic functions of office equipment are copying functions (able to duplicate documents) (refer to Table A.1), facsimile functions (able to send and receive documents) (refer to Table A.2), printing functions (able to print documents) (refer to Table A.3), and scanning functions (able to scan and save documents) (refer to Table A.4). Refer to Annex B for advanced functions.

The basic functions of office equipment shall be operable by at least one of the users indicated in 4.2. Consideration should also be given for enabling users to operate the functions in the case outlined in 4.3 as well.

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Table A.1 — Copying functions

Task	Operation	Operation task
Access [a]		
Preparation	a) Setting the document	
	1) Original platen glass	Open the automatic document feeder (ADF) or the platen cover.
		Place the document on the original platen glass.
		Confirm the document setting position.
		Close the ADF or platen cover.
	2) Automatic document feeder (ADF) tray	Place the document in the ADF.
		Adjust the document guide.
		Confirm the document position.
Job Settings	a) Function selection [b]	Select the copy function.
	b) Setting	Use key input to set the number of copies.
Operation	a) Startup	Press the (copy) start key.
Completion	a) Document removal	
	1) Glass surface	Open the ADF or platen cover.
		Remove the document from the original platen glass.
		Close the ADF or platen cover.
	2) Original document receiving tray of the ADF	Remove the document from the ADF.
	b) Copy removal	Take the copied paper out.

[a] There shall be no barriers to access the operable controls within the scope of basic operations above. Also, the position of operable controls shall be understandable. Furthermore, the operation functions of keys and other controls shall be discernible.

[b] When a multifunction device provides multiple functions, users shall be able to select the desired function

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Table A.2 — Facsimile functions

Task	Operation	Operation task
Access [a]		
Preparation	a) Setting the document	
	1) Glass surface	Open the automatic document feeder(ADF) or the platen cover.
		Place the document on the original platen glass.
		Confirm the document setting position.
		Close the ADF or the original platen cover.
	2) Automatic document feeder tray	Place the document in the ADF.
		Adjust the document guide.
		Confirm the document position.
Job Settings	a) Function selection [b]	Select the facsimile function.
	b) Setting	Specify the destination for transmission with key input.
Operation	a) Startup	Press the (facsimile transmission) start key.
	b) Transmission	Confirm the results of transmission.
Completion	a) Document removal	
	1) Glass surface	Open the ADF or the platen cover.
		Remove the document from the original platen glass.
		Close the ADF or the platen cover.
	2) Original document receiving tray of the ADF	Remove the document from the ADF.
	b) Reception [c]	

[a] There shall be no barriers to access the operable controls within the scope of basic operations above. Also, the position of operable controls shall be understandable. Furthermore, the operation functions of keys and other controls shall be discernible.

[b] When a multifunction device provides multiple functions, users shall be able to select the desired function

[c] The Reception refers to automatic reception.

Table A.3 — Printing functions

Task	Operation	Operation task
Access [a]		
Preparation	a) Paper supply (Paper feed tray or paper feed cassette)	Paper supply operation.
		Open the paper feed tray or paper feed cassette out.
		Set the paper.
		Close the paper feed tray or paper feed cassette.
Job Settings	a) Driver startup	Start the client (personal computer) operations and printer driver [b] .
	b) Setting	Set the number of printouts.
Operation	a) Startup	Press the task execution key from the personal computer.
Completion	a) Print receiving tray	Take the printed paper out.

[a] There shall be no barriers to access the operable controls within the scope of basic operations above. Also, the position of operable controls shall be understandable. Furthermore, the operation functions of keys and other controls shall be discernible.

[b] Items dependent on the OS are excluded.

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Table A.4 — Scanning functions

Task	Operation	Operation task
Access		
Preparation	a) Setting the document	
	1) Glass surface	Open the automatic document feeder (ADF) or the platen cover.
		Place the document on the original platen glass.
		Confirm the document setting position.
		Close the ADF or the platen cover.
	2) Automatic document feeder tray	Place the document in the ADF.
		Adjust the document guide.
		Confirm the document position.
Job Settings	a) Function selection	Select the scanner function.
Operation	a) Startup	Press the (scanner) start key.
Completion	a) Document removal	
	1) Glass surface	Open the ADF or the platen cover.
		Remove the document from the original platen glass.
		Close the ADF or the platen cover.
	2) Original document receiving tray of the ADF	Remove the document from the ADF.

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Annex B
(informative)

Advanced functions and operation

B.1 Scope

This informative annex provides additional information for designers and developers of office equipment which provides advanced functions.

This annex indicates the scope of advanced functions for operating office equipment, as well as the scope of associated operations. The scope of advanced functions and associated operations depends on the specifications of particular equipment.

Also note that the shaded parts in Annex B Table B.1 to Annex B Table B.4 are the same as in Annex A (the scope of basic operations).

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Table B.1 — Copying functions

Task	Operation	Operation task
Access [a]		
Preparation	a) Power management	Turn on the power.
	b) Paper supply (Paper feed tray or paper feed cassette)	Paper supply operation [b]
	c) Setting the document	
	1) Glass surface	Open the automatic document feeder (ADF) or the platen cover.
		Place the document on the original platen glass.
		Confirm the document setting position.
		Close the ADF or the platen cover.
	2) Automatic document feeder tray	Place the document in the ADF.
		Adjust the document guide.
		Confirm the document position.
Job Settings	a) Function selection [c]	Select the copying function.
	b) Setting	Use key input to set the number of copies.
	c) Application function	Set the density, paper size, zoom, reduction, stapling, sorting, and duplex settings [d]
		Confirm the settings.
Operation	a) Startup	Press the (copy) start key.
Completion	a) Document removal	
	1) Glass surface	Open the ADF or the platen cover.
		Remove the document from the original platen glass.
		Close the ADF or the platen cover.
	2) Original document receiving tray of the ADF	Remove the document from the ADF.
	b) Copy removal	Take the copied paper out.
	c) Power management	Turn off the power.

[a] There shall be no barriers to access the operable controls within the scope of basic operations above. Also, the position of operable controls shall be understandable. Furthermore, the operation functions of keys and other controls shall be discernible.

[b] The paper supply operations using the paper feed tray or the paper feed cassette for copying and facsimile functions conform to the printing function.

[c] When a multifunction device provides multiple functions, users shall be able to select the desired function.

[d] It is also possible to use the duplex copying functions that are settable by the default.

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Table B.2 — Facsimile functions

Task	Operation	Operation task
Access [a]		
Preparation	a) Paper supply (Paper feed tray or paper feed cassette)	Paper supply operation [b]
	b) Setting the document	
	1) Glass surface	Open the automatic document feeder (ADF) or the platen cover.
		Place the document on the original platen glass.
		Confirm the document position.
		Close the ADF or the platen cover.
	2) Automatic document feeder tray	Place the document in the ADF.
		Operate the document guide.
		Confirm the document position.
Job Settings	a) Function selection [c]	Select the facsimile function .
	b) Setting	Specify the destination for transmission with key input.
		Input the abbreviated dialing number.
Operation	a) Startup	Press the (facsimile transmission) start key.
	b) Transmission	Confirm the results of transmission.
Completion	a) Document removal	
	1) Glass surface	Open the ADF or the platen cover.
		Remove the document from the original platen glass.
		Close the ADF or the platen cover.
	2) Original document receiving tray of the ADF	Remove the document from the ADF.
	b) Reception [d]	

[a] There shall be no barriers to access the operable controls within the scope of basic operations above. Also, the position of operable controls shall be understandable. Furthermore, the operation functions of keys and other controls shall be discernible.

[b] The paper supply operations using the paper feed tray or the paper feed cassette for copying and facsimile functions conform to the printing function.

[c] When a multifunction device provides multiple functions, users shall be able to select the desired function.

[d] The Reception refers to automatic reception.

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Table B.3 — Printing functions

Task	Operation	Operation task
Access [a]		
Preparation	a) Power management	Turn on the power.
	b) Paper supply (Paper feed tray or paper feed cassette)	Paper supply operation [b]
		Open the paper feed tray or paper feed cassette out.
		Set the paper.
		Close the paper feed tray or paper feed cassette.
Job Settings	a) Driver startup	Start the client (personal computer) operation and the printer driver [c]
	b) Setting	Set the number of sheets.
	c) Application function	Set stapling, sorting, and other such settings.
Operation	a) Startup	Press the task execution key from the personal computer.
Completion	a) Print receiving tray	Take the printed paper out.
	b) Power management	Turn off the power.

[a] There shall be no barriers to access the operable controls within the scope of basic operations above. Also, the position of operable controls shall be understandable. Furthermore, the operation functions of keys and other controls shall be discernible.

[b] The paper supply operations using the paper feed tray or the paper feed cassette for copying and facsimile functions conform to the printing function.

[c] Items dependent on the OS are excluded.

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Table B.4 — Scanning functions

Task	Operation	Operation task
Access [a]		
Preparation	a) Power management	Turn on the power.
	b) Setting the document	
	1) Glass surface	Open the ADF or the platen cover.
		Place the document on the original platen glass.
		Confirm the document setting position.
		Close the ADF or the platen cover.
	2) Automatic document feeder tray	Place the document in the ADF.
		Operate the document guide.
		Confirm the document position.
Job Settings	a) Function selection [b]	Select the scanner function.
	b) Driver startup	Start the client (personal computer) and main unit operation and the scanning driver.
	c) Application function	Set transmission.
Operation	a) Startup	Press the task execution key from the personal computer.
Completion	a) Document removal	
	1) Glass surface	Open the ADF or the platen cover.
		Remove the document from the original platen glass.
		Close the ADF or the platen cover.
	2) Original document receiving tray of the ADF	Remove the document from the ADF.
	b) Power management	Turn off the power.

[a] There shall be no barriers to access the operable controls within the scope of basic operations above. Also, the position of operable controls shall be understandable. Furthermore, the operation functions of keys and other controls shall be discernible.

[b] When a multifunction device provides multiple functions, users shall be able to select the desired function.

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