
**Ergonomics — Accessible design —
Tactile dots and bars on consumer
products**

*Ergonomie — Conception accessible — Utilisation des points et barres
tactiles sur les produits de consommation courante*

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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 technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member 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 shall not be held responsible for identifying any or all such patent rights.

ISO 24503 was prepared by Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 4, *Ergonomics of human-system interaction*.

Introduction

Consumers are surrounded by various kinds of consumer products having switches to control electric operation in devices such as information and communication technologies, office technologies, cooking units, toys, bathroom devices, personal medical devices, cameras, etc. This International Standard provides requirements for improving the accessibility of the consumer products used by people having visual disabilities, and in cases where visual information is not the primary sense used for accomplishing the task.

This International Standard only applies to products for personal use and is not for commercial, professional, or industrial use.

This International Standard is based on the principles of accessible design set out in ISO/IEC Guide 71, *Guidelines for standards developers to address the needs of older persons and persons with disabilities*.

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Ergonomics — Accessible design — Tactile dots and bars on consumer products

1 Scope

This International Standard specifies requirements for the design of tactile dots and tactile bars for use on consumer products to improve accessibility for everyone, including older persons and persons with disabilities.

This International Standard is applicable to consumer products used by persons with visual disabilities, and in cases where visual information is not the primary sense used for accomplishing the task.

Alternative tactile methods, such as texture and vibration, and other tactile symbols, such as triangles and squares, are not covered in this International Standard.

Alternative feedback methods, such as in acoustic and visual modalities, are not covered in this International Standard.

2 Terms and definitions

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

2.1

consumer product

product that is intended to be acquired and used by an individual for personal rather than professional use

2.2

control

device that directly responds to an action of the operator, e.g. by the operator applying pressure

2.3

function

action that is triggered by the operation of a control

NOTE In this International Standard, functions are limited to starting/stopping and increasing/decreasing.

2.4

tactile symbol

sign identifiable and recognizable by touch

2.5

tactile dot

dot-shaped tactile symbol

2.6

tactile bar

bar-shaped tactile symbol

3 Controls marked with tactile dots and bars

3.1 General

Tactile dots and/or tactile bars shall be placed on the controls of a device to serve the following purposes:

- identification of a function of controls;
- location information of arrayed controls.

3.2 Controls marked for identification of a function

3.2.1 Controls for starting or stopping/canceling functions

A tactile dot shall be placed on a control whose purpose it is to start a major function of a product.

A tactile bar shall be placed on a control whose purpose it is to stop/cancel a function of a product.

Controls capable of both starting and stopping a major function of a product, such as a push-button ON/OFF switch, shall be marked only by a tactile dot.

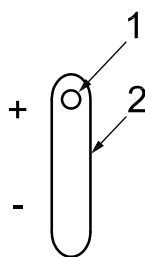
3.2.2 Controls for power source

When a separate control for the power source is not recognizable by shape and/or size through touch, a tactile dot should be placed on the control of the power source.

3.2.3 Controls with an increasing/decreasing function

Controls with an increasing and decreasing function shall be marked with a tactile dot on the “increasing side”. When there are more than two controls with an increasing and decreasing function placed in an array, a control or controls to be marked with a tactile dot can be selected.

EXAMPLE Control of a remote TV channel changer (see Figure 1).



Key

- 1 tactile dot
- 2 control with an increasing/decreasing function

Figure 1 — Control with an increasing/decreasing operation with a tactile dot

3.3 Controls marked for location information

For arrayed controls, a tactile dot or bar shall be placed on a specific control to facilitate navigation around the controls.

EXAMPLE 1 The f and j keys on a keyboard.

EXAMPLE 2 The 5 key on a numerical keypad.

4 Positioning of tactile dots and bars

4.1 General

In all cases, tactile dots and bars shall be easily found and clearly recognizable by touch.

4.2 Placement of tactile dots and bars

Tactile dots and bars should be placed directly on the control. If this placement is inappropriate, tactile dots and bars may be placed on a stationary surface in close proximity to the control.

4.3 Joint use with Braille and/or other tactile symbols

When placing a tactile dot or bar in conjunction with Braille and/or other tactile symbols, special care shall be taken so that they do not interfere with each other.

5 Dimensions and shapes of tactile dots and bars

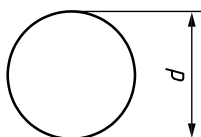
5.1 General

The dimensions of tactile dots and bars shall be adjusted according to the size of the associated control, not to the size of a product.

NOTE Some big products have small controls and some small products have big controls.

5.2 Dimension and shape of a tactile dot

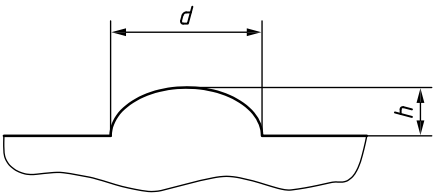
The dimension and shape of a tactile dot should be within the range shown in Figures 2 and 3, and Table 1.



Key

d diameter

Figure 2 — Top view of a tactile dot specifying the diameter



Key
d diameter
h height

Figure 3 — Side view of a tactile dot specifying the diameter and height

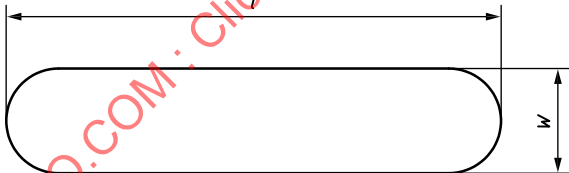
Table 1 — Dimensions of a tactile dot

<i>d</i> mm	<i>h</i> mm
from 0,8 to 2,0	from 0,4 to 0,8

5.3 Dimension and shape of a tactile bar

The dimension and shape of a tactile bar should be within the range shown in Figures 4 and 5, and Table 2.

The length of a tactile bar should be 5 to 10 times its width.



Key
l length
w width

Figure 4 — Top view of a tactile bar specifying length and width



Key
h height

Figure 5 — Side view of a tactile bar specifying height