DRAFT INTERNATIONAL STANDARD

ISO/DIS 19028

ISO/TC **173**/SC **7**

Secretariat: **JISC**

Voting begins on:
2015-06-22

Voting terminates on:
2015-09-22

Accessible design — Information contents, figuration and display methods of tactile guide maps

Titre manque

ICS: 13.180; 11.180.30

Reference number
ISO/DIS 19028:2015(E)

COPYRIGHT PROTECTED DOCUMENT

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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.

ISO 19028 was prepared by Technical Committee ISO/TC 173, *Assistive products*, Subcommittee SC 7, *Accessible Design*

Introduction

As the number of older population and social participation of persons with disabilities is increasing, improvement of the social infrastructure for these people is an urgent issue. Devices for mobility assistance to facilitate social participation of persons with seeing impairment and blindness have rapidly disseminated. Among others, a tactile guide map is a convenient tool for providing location information which is necessary for mobility of such people. Although the number of their installation has steadily increased, it has become obvious that in the meantime, inappropriate or misleading tactile guide maps have been increasing which has caused the users a big problem. To solve the problem, this standard provides the principal and standardized specifications concerning information contents, figuration and display methods of tactile guide maps.

Accessible Design— Information contents, figuration and display methods of tactile guide maps

1 Scope

This standard specifies information contents, figuration and display methods of tactile guide maps providing location information of buildings including those for the general public, public transport and parks and also the surroundings in the close vicinity including access routes to them in order to enable persons with seeing impairment and blindness to move safely and smoothly in those facilities.

2 Normative references

The following referenced documents apply to 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 17049:2013 "*Accessible design – Application of braille on signage, equipment and appliances"*

ISO 21542:2011 "*Building construction – "Accessibility and usability of the built environment"*

3 Terms and definitions

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

3.1
tactile guide map
information map that provides persons with seeing impairment and blindness with location information of inside and outside of buildings including those for the general public, public transport and parks, which is made recognizable using convex lines and/or convex or concave surfaces, tactile marks, braille and/or raised characters and/or large print, having two types: an installed type in facilities, etc. and a portable booklet format

3.2
title
concise index in braille and/or raised characters indicating the content of a tactile guide map

3.3
commentary
sentences in braille and/or raised characters to give general description of a tactile guide map, cautions and usage of tactile marks

3.4
lettering
letters, numbers, words or a combination of them to label items of interest in a tactile guide map

3.5
legend
itemized explanation of tactile marks and/or abbreviations of braille and/or raised characters used for tactile figures

3.6
tactile marks
convex or concave marks used for a tactile guide map to provide information on facilities and equipment

3.7
tactile figure
aggregated relief-like figure composed of convex lines and/or convex or concave surfaces, tactile marks, braille and/or raised characters

3.8
printed characters
characters written in pencil, with a pen, and in print, not in Braille

3.9
large print
letters with high readability for people with residual vision

3.10
raised characters
specially designed raised/embossed characters composing letters and numbers readable by touch

3.11
tactile readability
ease of reading braille and other tactile information by touch

[SOURCE:ISO 17049:2013]

4 Information contents to be displayed on tactile guide maps

4.1 Composition of a tactile guide map

A tactile guide map shall be composed of the following contents.

a) Title

b) Commentary

For a tactile map in a booklet form, a commentary may be placed separately. A commentary can be omitted when a tactile guide map does not need any description of the content.

c) Legend

A legend can be omitted if a tactile guide map only contains common and easily recognizable tactile marks without need of explanation and does not use abbreviations in braille and raised characters.

d) Tactile figures

e) Other information contents

1) Scale

When appropriate, to facilitate navigation, a scale to indicate distances in the map should be added.

2) North direction

When appropriate, north direction should be indicated.

4.2 Principles for information contents

a) Tactile guide map shall be of required and minimum information to grasp the space and/or move.

The amount of information given in a tactile guide map will largely be determined by the imminent purpose of the tactile map. Whether the map is for indicating a route of travel or to give an overview of an area. All information that does not serve the intended purpose of the tactile guide map has to be omitted.

NOTE Tactile guide maps specialised for orientation and mobility of persons with seeing impairment and blindness are called “Orientation and Mobility maps”. A common tactile guide map may as an example show stairs and sometimes also direction of stairs, while tactile guide maps specialized for orientation and mobility will have to show direction and sometimes the number of steps in stairs.

b) When selecting information to be displayed on the map, contents which support safe and smooth movements of persons with seeing impairment and blindness shall be prioritised. .

c) Tactile readability shall be taken into consideration.

The tactile readability of tactile information in guide maps is influenced by a variety of factors, the majority of which have to be considered in their mutual interdependence which in turn will widely influence the selection, size and shape of tactile figures and marks.

When a visual guide map displaying the identical range to a tactile guide map is available, the maps shall maintain mutual consistency though the amount of information may be different.

d) All types of tactile marks (whether tactile figures or lettering) contained in a tactile guide map shall be easily identifiable and be explained in the legend or by lettering in the respective area of the map.

e) Printed characters may be also used along with tactile figures on a tactile guide map

f) Instead of lettering points of installed guide maps, electronic tags giving out audio information about the particular points in the map can be used.

g) The date of production and the contact information should be displayed.

5 Figuration of tactile guide maps

5.1 Dimensions

The physical size of a tactile guide map will have to correlate with the amount of information required for the purpose to be achieved by the tactile guide map in relation to the size of the location or area to be depicted in the map.

The size of an installed tactile guide map should be within 600 mm in grip distance for desk installation (Figure 1), and for wall installation (Figure 2). When a tactile guide map is prepared in a booklet form, extra attention should be paid so that the folds do not hinder tactile reading.

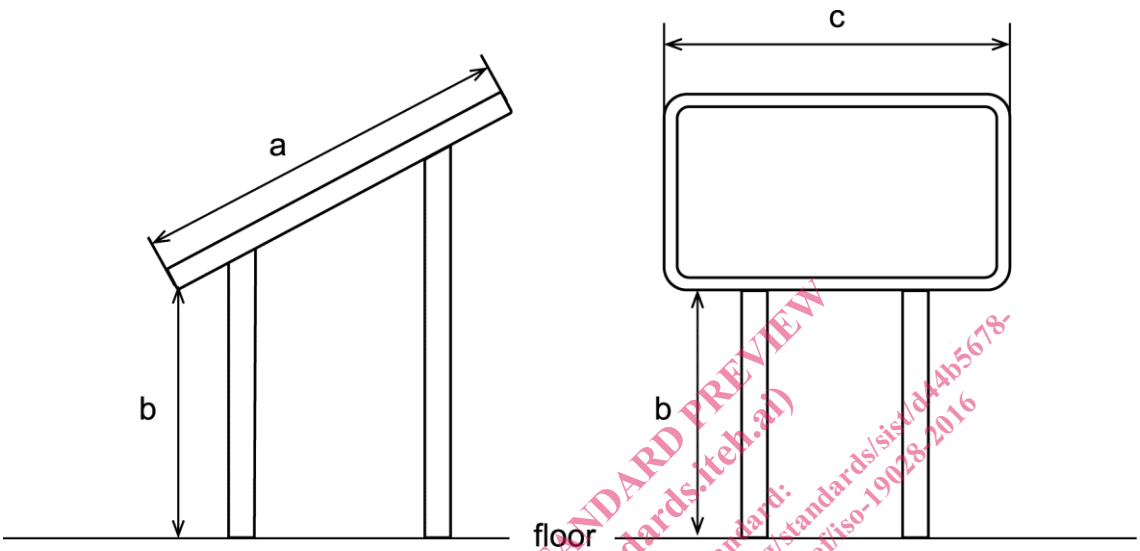
5.2 Location of installed tactile guide maps

For a tactile guide map installed on the wall which is perpendicular to the floor, the height of the tactile area of the map shall be placed between 1100 mm and 1600 mm from the floor. The centre of the map should be preferably at 1400 mm.

These dimensions do not apply to guide maps which are set horizontally to the floor or inclined to angles close to horizontal. (Figure 1) In either case, a location that does not hinder tactile readability shall be chosen.

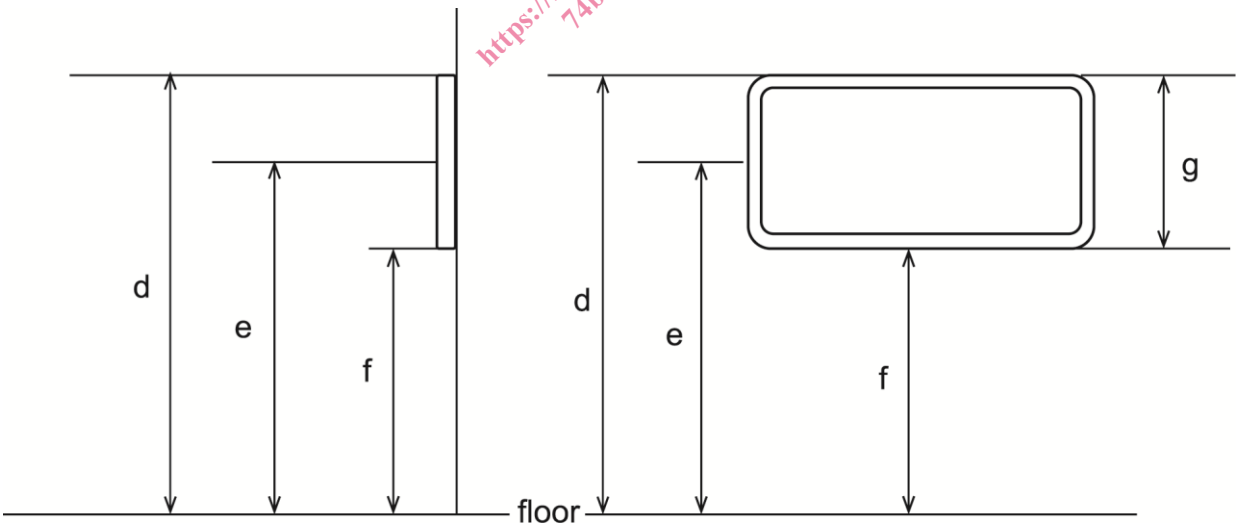
The clearance of the lowest part of the desk installation shall be 900 mm to enable wheelchair users access. (see 40.14 of ISO 21542)

Great care must be taken to ensure that blind people and people with seeing impairment can find the installed tactile guide maps e.g. by using TWSIs or similarly appropriate tactile guide lines to lead them there or by installing floor plans at fixed places next to elevators, stairs etc.



NOTE When deciding height of installation, the target group for a particular maps should be taken in consideration, which may lead to other decisions concerning installation height of the map (e.g. when target group are children).

Figure 1 – Examples of figurations of desk installation type



Key

a: within 600 mm

b: 900 mm

c: approximately 1000 mm

d: within 1600 mm

e: preferably1400 mm

f: 1100 mm and over

g: within 600 mm

NOTE Framework for tactile guide maps is not included in the given measures of tactile maps.

Figure 2－Examples of figurations of wall installation type

5.3 Directions of a tactile guide map

a) When installing a guide map, marks of directional reference and present location indicated in a tactile guide map shall strictly comply with the actual directions and present location in the place where the map to be installed; for example, locations of a particular office depicted in the map to the right-hand side in a building shall be found on the right-hand side of the actual building.

NOTE: When tactile guide maps are placed at an angle (e.g. 180° or any other angle to the actual directions) blind people face problems since they cannot see other landmarks as e.g. flights of stairs, lifts etc. which would enable them to adjust the faulty direction given in the map. Some people have difficulties in turning the map round in the mind.

b) Tactile guide maps for installation shall be placed in the way that a user can read the lettering and tactile figures well.

c) For guide maps which contain information on spatially overlapping area such as the first floor and the second floor of a building and guide maps which display one large space using multiple maps, the scale size and the direction shall be unified. When the maps of each floor are to be installed on respective floors, each guide map should be placed in the same location of respective floors and in the same direction.

Presenting two levels of a building or a place on top of each other in one tactile guide map is not permissible, because the elements to each level cannot be assigned by the blind reader unambiguously. If in a multi-storey building several storeys have to be displayed for reason of different layout of rooms or for information on rooms, separate individual maps for each storey are required. If needed a cross section in side view of the building could be added comprising several storeys to indicate transfer routes from one storey to another, different room arrangements, halls rising over more than one storey etc.

d) Tactile guide maps in a booklet form may employ user-friendly directions, considering locations of doorways, flow-lines, and so on.

e) The starting position should be clearly indicated by a big dot or triangular sign.

6 Display methods

The display method will result from the purpose and the type of the tactile guide map, whether it is a sketch only, a portable map in a booklet or whether it is a map installed indoors or outdoors or it is a model of a site (e.g. a building, an access route to a place or an overview of a place such as of a park or a garden).

To represent a large, complex building, the vicinity or park area around a building or a clear floor plan will require a different amount of information and hence a different scale. Decisions to apply tactile figures or only marks have to be made in accordance with the space available in the tactile map and the necessity to provide additional information for guiding or orientation (the need to give part of a path of travel in an extended scale e.g. complex crossroads) or directions of stairs (e.g. going upward or downward), giving directions of a lift (when going to different parts of a building etc.

6.1 Title

A title shall be displayed in the upper part of a tactile guide map.