INTERNATIONAL STANDARD

ISO/IEC 11581-5

First edition
2004-05-15

Information technology — User system interfaces and symbols — Icon symbols and functions —

Part 5: Tool icons

Technologies de l'information — Interfaces pour système utilisateur et symboles — Symboles et fonctions d'icônes —

Partie 5: Icônes d'outils

Reference number
ISO/IEC 11581-5:2004(E)

© ISO/IEC 2004

Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS

Not for Resale

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

© ISO/IEC 2004

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS

© ISO/IEC 2004 – All rights reserved

Not for Resale

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Conformance 1

3 Normative references 1

4 Terms and definitions 1

5 Conceptual construction of tools 2

6 Tool requirements and recommendations 2
6.1 Requirements 2
6.1.1 Arrangement 2
6.1.2 Selection 2
6.1.3 Feedback 2
6.1.4 Sensitive region and hot spot 2
6.1.5 Orientation 2
6.2 Recommendations 3
6.2.1 Metaphor 3
6.2.2 Typeface 3
6.2.3 Colour 3
6.2.4 Feedback 3

7 Icon specifications 3
7.1 Creation tools 4
7.1.1 Text creation 4
7.1.2 Line and shape creation 5
7.1.3 Area creation 11
7.2 Manipulation tools 17
7.2.1 Area selection 17
7.2.2 Object manipulation 19
7.2.3 Overview control 23

© ISO/IEC 2004 – All rights reserved

Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

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 11581-5 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 35, *User interfaces.*

ISO/IEC 11581 consists of the following parts, under the general title *Information technology — User system interfaces and symbols — Icon symbols and functions*:

— *Part 1: Icons — General*

— *Part 2: Object icons*

— *Part 3: Pointer icons*

— *Part 5: Tool icons*

— *Part 6: Action icons*

© ISO/IEC 2004 – All rights reserved
Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

Introduction

Tools are the subset of the interactive icons that modify graphical or text elements of an application by association with real life tool objects. Tool icons represent tool functions such as drawing, painting, or modifying graphical elements. This part of ISO/IEC 11581 specifies the presentation and operation of tools.

--`,,`-`-`,,`,,`,`,`,`---

© ISO/IEC 2004 All rights reserved

Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

--`,,`,,`-`-`,,`,,`,`,,`---

Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS

Not for Resale

Information technology — User system interfaces and symbols — Icon symbols and functions —

Part 5: Tool icons

1 Scope

ISO/IEC 11581 applies to icons that are shown on a screen, that users can manipulate and interact with, and that represent data or computer system functions. This part of ISO/IEC 11581 addresses only tool icons. Tool icons represent functions by association with real life tools. This part of ISO/IEC 11581 describes user interaction with and appearance of tools on the screen. It also specifies the relationship between tools and pointers. Other types of icons are covered in other parts of ISO/IEC 11581.

2 Conformance

A system, application, or set of one or more icons conforms to this part of ISO/IEC 11581 if all tool icons available to the user in the system or application conform to clauses 5 and 6.1 of ISO/IEC 11581-1:2000 and to clause 6.1 of ISO/IEC 11581-3:2000, and to clauses 5 and 6.1 of this part of ISO/IEC 11581.

3 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 11581-1:2000, *Information technology — User system interfaces and symbols — Icon symbols and functions — Part 1: Icons — General*

ISO/IEC 11581-2:2000, *Information technology — User system interfaces and symbols — Icon symbols and functions — Part 2: Object icons*

ISO/IEC 11581-3:2000, *Information technology — User system interfaces and symbols — Icon symbols and functions — Part 3: Pointer icons*

4 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 11581-1, ISO/IEC 11581-2, ISO/IEC 11581-3 and the following apply.

4.1
tool palette
bounded area displaying a matrix of available tools from which the user makes a selection

© ISO/IEC 2004 All rights reserved

Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

4.2
tool pointer
changed graphic of the pointer resulting from the selection of the corresponding tool from the tool palette

NOTE A tool is an icon whose selection changes the function and shape of the pointer to perform a task with the associated tool depicted by the icon graphic (from ISO/IEC 11581-1:2000, clause 4.17).

5 Conceptual construction of tools

The conceptual construction of tools is similar to that shown for object icons in clause 5 of ISO/IEC 11581-2:2000. The metaphor is that of pushing a button to invoke the associated functionality.

6 Tool requirements and recommendations

When a tool is selected from the palette, the pointer changes its shape to the corresponding tool pointer. The subclauses below describe requirements and recommendations for tools and their corresponding tool pointers. Tool pointers inherit requirements and recommendations of pointers as described in clause 6 of ISO/IEC 11581-3:2000.

6.1 Requirements

The tool in the palette shall indicate to the user its associated function. At the same time the corresponding pointer shall confirm selection and prompt the user for the next available action.

6.1.1 Arrangement

All tools shall be grouped together in one or more tool palettes. Related tools shall be arranged adjacently within the tool palette. Other types of icons from other parts of ISO/IEC 11581 shall not be incorporated in the tool palette.

6.1.2 Selection

The selection of a tool shall be made by selecting a function with the pointer. Selections from the tool palette shall be mutually exclusive.

6.1.3 Feedback

When selected, the tool in a palette shall show its selected state.

NOTE The pointer should change its shape to confirm the selection and reflect the function associated with the selected tool (see ISO/IEC 11581-3:2000, clause 6.1.5).

6.1.4 Sensitive region and hot spot

Each tool on a palette shall have a sensitive region, typically an invisible overlay over the entire cell containing the tool graphic. The tool pointer shall have a hot spot. The hot spot of a tool pointer shall be intuitive and natural to the user. (The hot spot of the tool pointer is similar to that shown in clause 6.1.3 of ISO/IEC 11581-3:2000)

6.1.5 Orientation

There shall be consistent orientation between all the graphics in a tool palette. Where appropriate, there shall be visual consistency in the orientation of the tool palette graphic and the tool pointer graphic.

© ISO/IEC 2004 – All rights reserved
Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

6.2 Recommendations

6.2.1 Metaphor

The metaphor represented by the tool graphics should be directly related to the functionality of the tool.

6.2.2 Typeface

A simple typeface should be employed if letters, numbers, punctuation marks, and mathematical symbols are used as integrated elements of the tool.

6.2.3 Colour

The tool pointers should be black or white on a transparent background. The tools on the tool palette may be coloured but should be of similar visual weight when unselected.

6.2.4 Feedback

The change of shape from the default pointer to the tool pointer should be consistent and predictable by the user.

7 Icon specifications

The following specifications for tools are developed based on clause 5. The illustrations represent the basic graphics for the tool subject to global variations (see ISO/IEC 11581-1:2000, clause 6.3) and the specific variations given in this clause, listed for each tool where appropriate.

Tools specified in this clause fall into two categories:

- creation tools used for inputting text and graphics (7.1),
- manipulation tools used for grouping and editing objects (7.2).

The categories fall into further subcategories as follows.

Creation tools (7.1):

- text creation (7.1.1),
- line and shape creation (7.1.2),
- area creation (7.1.3).

Manipulation tools (7.2):

- area selection (7.2.1),
- object manipulation (7.2.2),
- overview control (7.2.3).

Graphics for all categories are shown bounded by a grey cell. The size of the cell and the location of the tool within it are shown for illustration only, and are implementation dependent.

© ISO/IEC 2004 All rights reserved

Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

7.1 Creation tools

7.1.1 Text creation

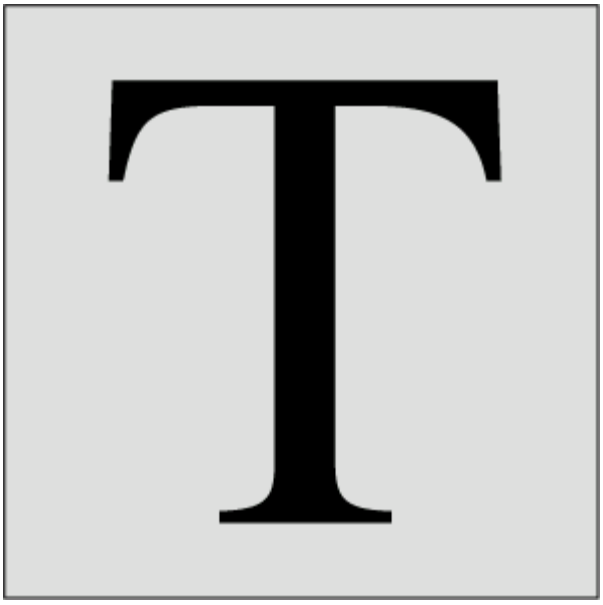
7.1.1.1 Text input

Primary function. To input or edit text in the area identified by the text pointer.

Specific instance. The letter “T”.

Components. A normal weight, serifed, capital letter “T” or another generic letter.

Graphic.



Corresponding tool pointer. Text pointer specified in clause 8.1 of ISO/IEC 11581-3:2000 should be applied.

© ISO/IEC 2004 – All rights reserved
Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

7.1.2 Line and shape creation

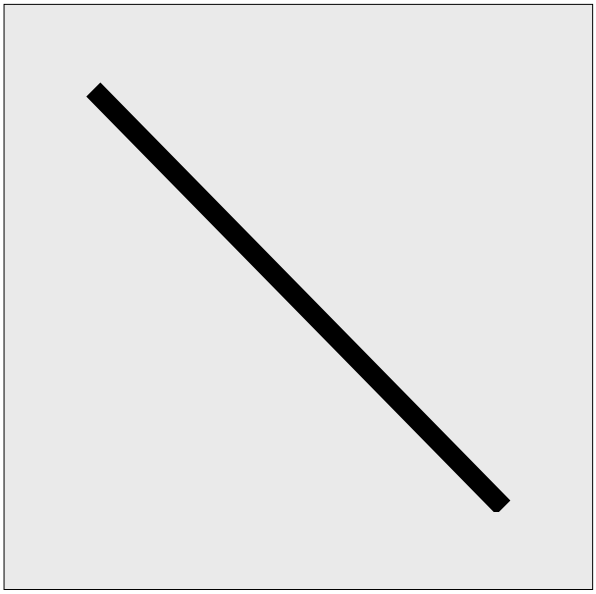
7.1.2.1 Straight line draw

Primary function. To draw a straight, constant width line.

Specific instance. A line segment.

Components. A diagonal line segment.

Graphic.



Corresponding tool pointer. The default pointer or the cross-hair pointer specified in clauses 7 and 8.3 of ISO/IEC 11581-3:2000.

--`,,-`-`,,`,,`,`,,`---

© ISO/IEC 2004 All rights reserved

Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

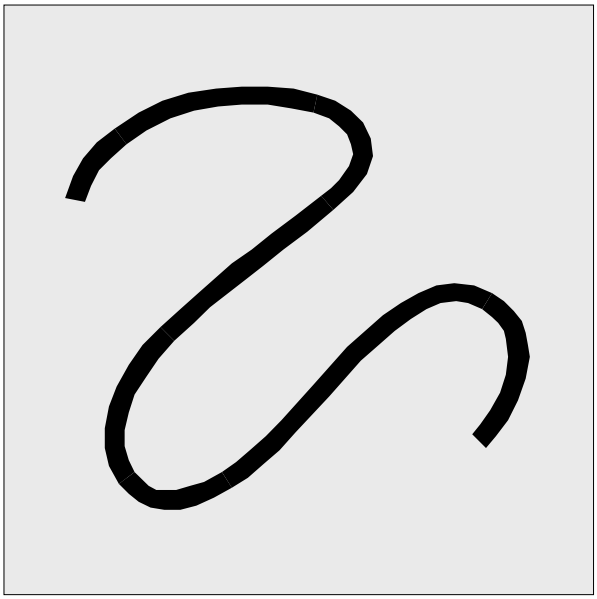
7.1.2.2 Freehand draw

Primary function. To draw a constant width, unconstrained line.

Specific instance. A freehand line.

Components. An irregular, curved line.

Graphic.



Corresponding tool pointer. The default pointer or the cross-hair pointer specified in clauses 7 and 8.3 of ISO/IEC 11581-3:2000.

© ISO/IEC 2004 – All rights reserved
Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

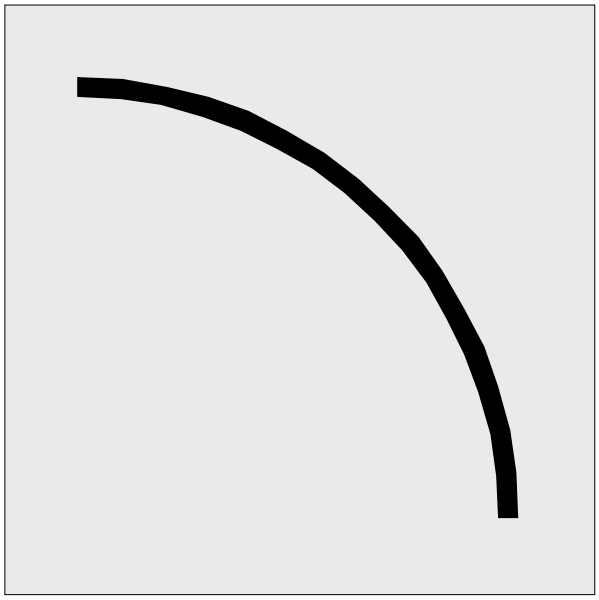
7.1.2.3 Arc draw

Primary function. To draw an arc.

Specific instance. An arc.

Components. An arc segment.

Graphic.



Corresponding tool pointer. The default pointer or the cross-hair pointer specified in clauses 7 and 8.3 of ISO/IEC 11581-3:2000.

© ISO/IEC 2004 All rights reserved

Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

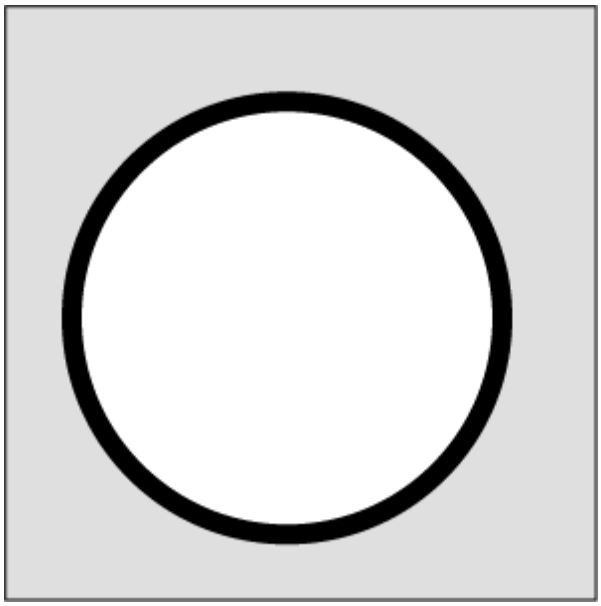
7.1.2.4 Circle draw

Primary function. To draw a circle.

Specific instance. A circle.

Components. An outline circle.

Graphic.



Specific variations. Outline or filled circle, depending on the available functionality.

Corresponding tool pointer. The default pointer or the cross-hair pointer specified in clauses 7 and 8.3 of ISO/IEC 11581-3:2000.

© ISO/IEC 2004 – All rights reserved
Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

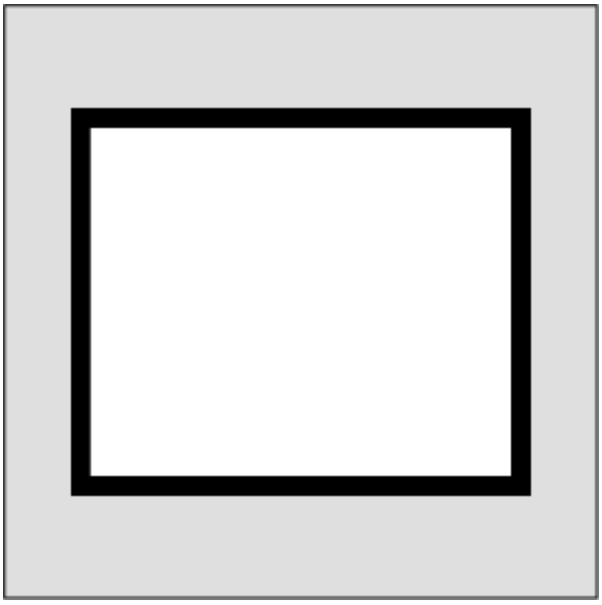
7.1.2.5 Rectangle draw

Primary function. To draw a rectangle.

Specific instance. A rectangle.

Components. An outline rectangle.

Graphic.



Specific variations. Outline or filled rectangle, depending on the available functionality.

Corresponding tool pointer. The default pointer or the cross-hair pointer specified in clauses 7 and 8.3 of ISO/IEC 11581-3:2000.

© ISO/IEC 2004 All rights reserved

Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

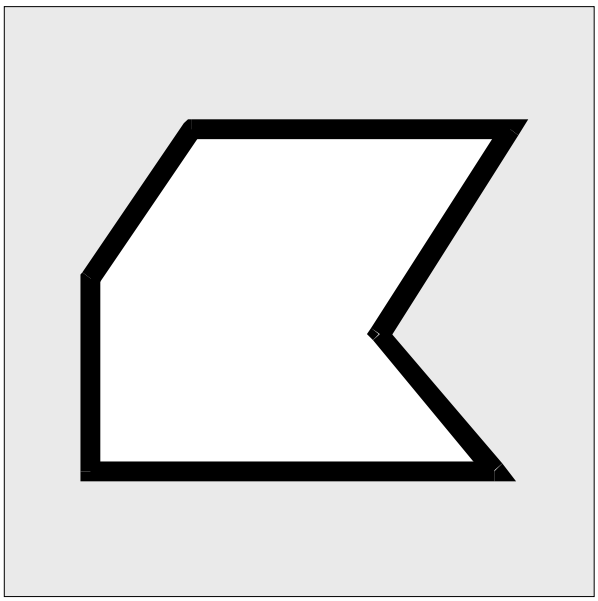
7.1.2.6 Polygon draw

Primary function. To create an irregular polygon.

Specific instance. A polygon.

Components. An irregular, outline polygon.

Graphic.



Specific variations. Outline or filled polygon, depending on the available functionality.

Corresponding tool pointer. The default pointer or the cross-hair pointer specified in clauses 7 and 8.3 of ISO/IEC 11581-3:2000.

© ISO/IEC 2004 – All rights reserved
Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

7.1.3 Area creation

7.1.3.1 Flood fill

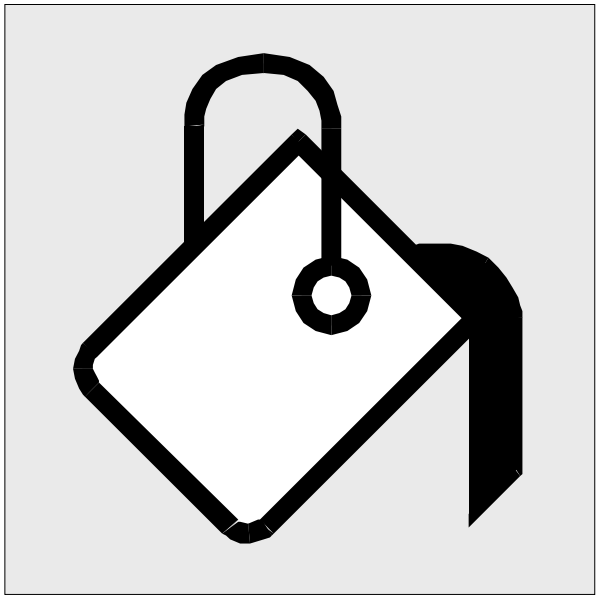
Primary function. To fill a bounded area of an image with the preselected pattern and colour.

Specific instance. A paint bucket.

Components.

- Bucket. An angled rectangle with curved lower corners.
- Handle. A line shaped as an inverted U with a small circle at the visible end.
- Flowing paint. A broad, curved line flowing from the paint bucket.

Graphic.



Corresponding tool pointer.

- The same graphic as the tool but it can be left or right-hand oriented.
- The hot spot should be the lowest tip of the flowing paint.

© ISO/IEC 2004 All rights reserved

Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

7.1.3.2 Colour pick-up

Primary function. To select a colour already used as part of the image.

Specific instance. A pipette as typically used to pick-up a small amount of liquid.

Components.

- Tube. A thin angled rectangle narrowed at the lower end, with calibrations along one side.
- Cap. A balloon shaped bulb in a solid colour.

Graphic.



Corresponding tool pointer.

- The same graphic image as the tool but it can be left or right-hand oriented.
- The hot spot should be at the lowest tip of the tube.

© ISO/IEC 2004 – All rights reserved
Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

7.1.3.3 Erase

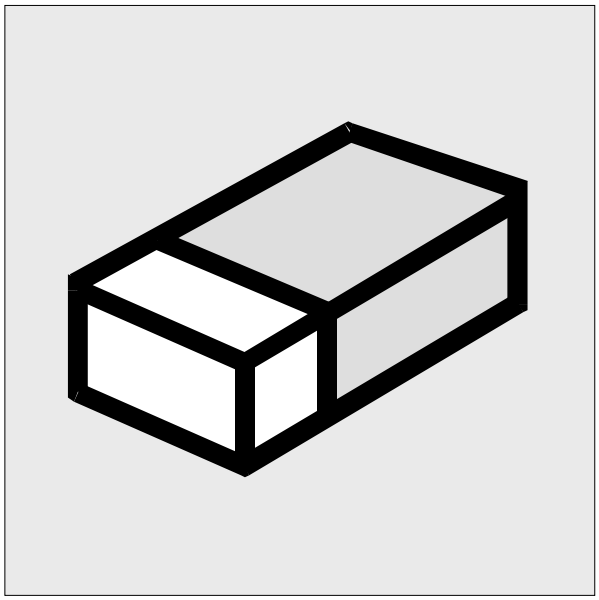
Primary function. To erase areas within the bitmap image.

NOTE The effective size and shape of the corresponding pointer should be user selectable.

Specific instance. An eraser.

Components. A three-dimensional, rectangular block.

Graphic.



Corresponding tool pointer.

- A two dimensional, regular shaped pointer, e.g. a square or circle, but it can be left or right-hand oriented.
- In this instance the hot spot is typically the entire pointer shape.

© ISO/IEC 2004 All rights reserved

Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

7.1.3.4 Brush paint

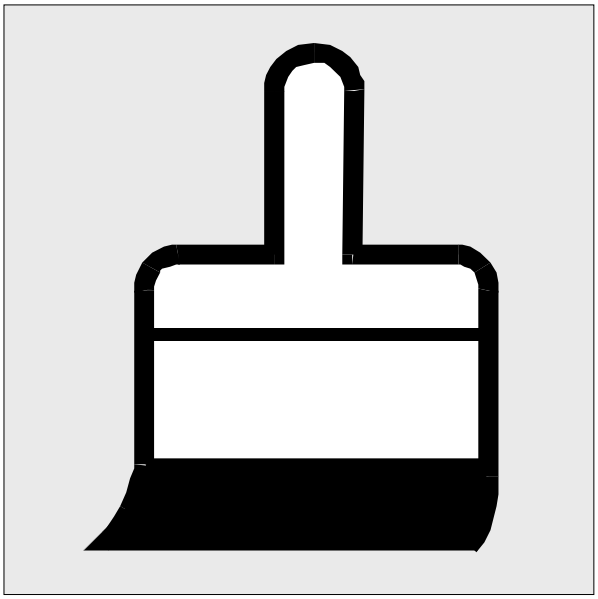
Primary function. To create broad, freehand lines.

Specific instance. A broad paint brush, typically used for painting large areas.

Components.

- Handle. A tall rectangle.
- Brush. A square divided horizontally in half, the lower half filled in a solid colour.

Graphic.



Corresponding tool pointer.

- The pointer shape should correspond to the line style required (e.g. a square, circle, or short diagonal line) and be selectable by the user.
- The hot spot should be intuitive to the user.

© ISO/IEC 2004 – All rights reserved
Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

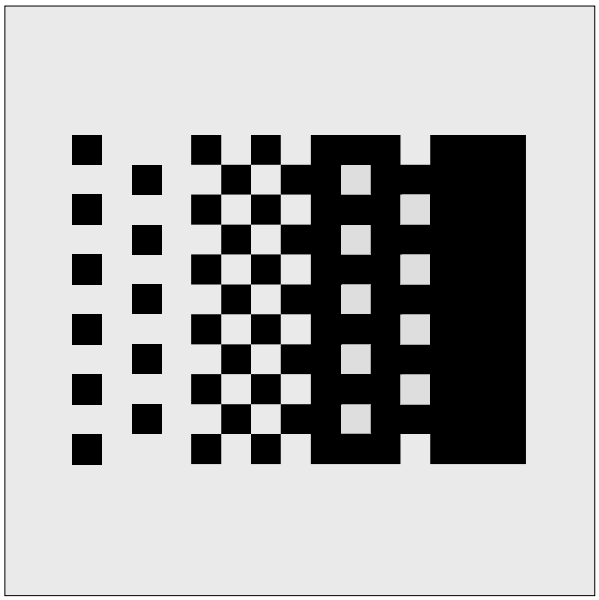
7.1.3.5 Gradation fill

Primary function. To fill a bounded area of an image with a selected gradation pattern.

Specific instance. Gradation.

Components. A rectangular box containing a gradated pattern.

Graphic.



Corresponding tool pointer. The same tool pointer as for “Flood fill” (see clause 7.1.3.1).

© ISO/IEC 2004 All rights reserved

Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

7.1.3.6 Spray paint

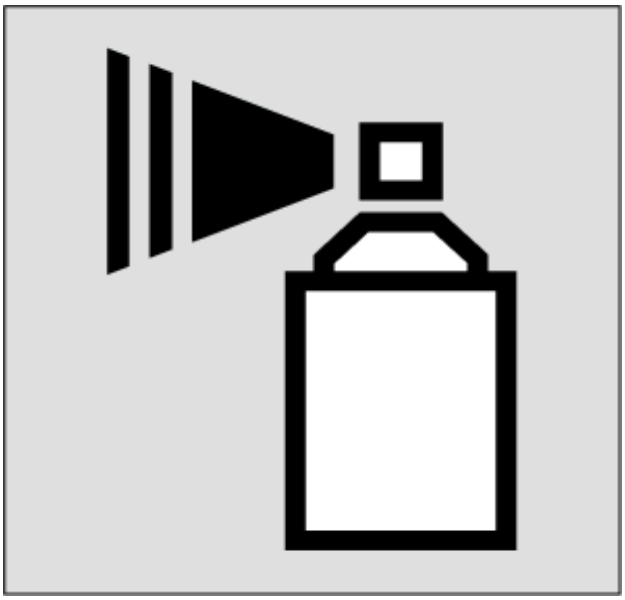
Primary function. To spray paint an area with colour to create an irregular effect.

Specific instance. An aerosol spray can.

Components.

- Spray can. A tall rectangle surmounted with a trapezium and a small square above that.
- Spray mist. A gradated triangular area.

Graphic.



Corresponding tool pointer.

- The same graphic as the tool without spray jet. But it can be left or right-hand oriented.
- The hot spot should be at the tip of the spray nozzle.
- The size of the spray area and its density should be selectable by the user.

© ISO/IEC 2004 – All rights reserved
Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

7.2 Manipulation tools

7.2.1 Area selection

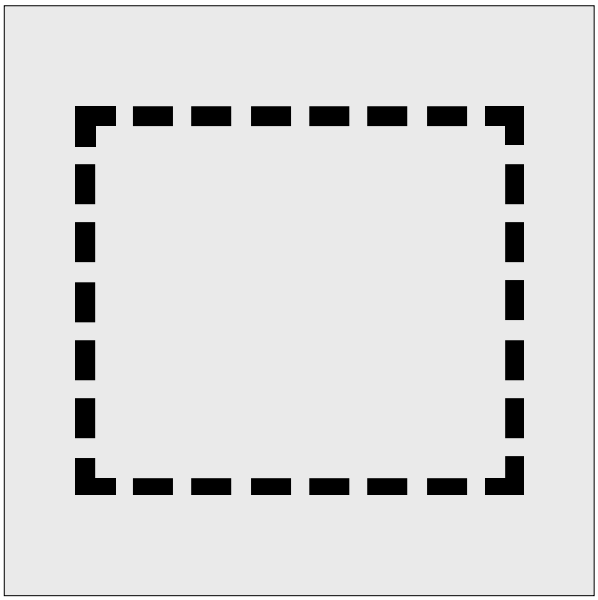
7.2.1.1 Rectangular area select

Primary function. To select a rectangular area containing objects and images.

Specific instance. Setting a bounded area that surrounds the targeted objects or area.

Component. A rectangle made from dotted lines.

Graphic.



Corresponding tool pointer.

- For area selection, the default pointer specified in clause 7 of ISO/IEC 11581-3:2000 should be used.
- For area manipulation, a cross-hair pointer similar to the pointer specified in clause 8.3 of ISO/IEC 11581-3:2000, but with continuous lines and arrowhead at their ends, should be used.

© ISO/IEC 2004 All rights reserved

Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

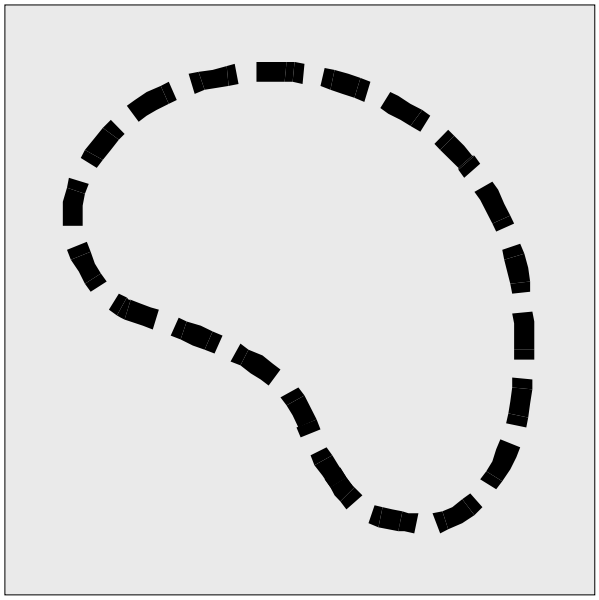
7.2.1.2 Irregular shaped area select

Primary function. To select an irregular shaped area containing objects and images.

Specific instance. Setting a bounded area that surrounds the targeted object and area.

Component. A freehand shape made from a continuous dotted line.

Graphic.



Corresponding tool pointers.

- For area selection, the default pointer specified in clause 7 of ISO/IEC 11581-3:2000 should be used.
- For area manipulation, a cross-hair pointer similar to the pointer specified in clause 8.3 of ISO/IEC 11581-3:2000, but with continuous lines and arrowhead at their ends, should be used.

© ISO/IEC 2004 – All rights reserved
Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

7.2.2 Object manipulation

7.2.2.1 Rotate

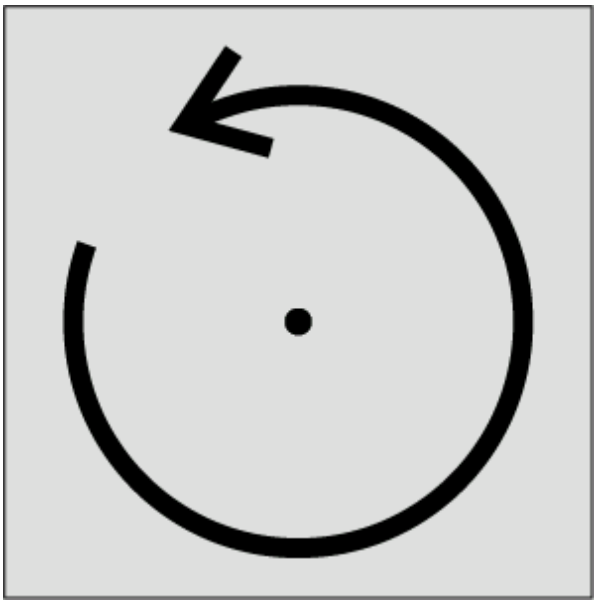
Primary function. To rotate an object.

Specific instance. The track of an object rotating about an axis.

Components.

- An incomplete counter clockwise circle with an arrowhead.
- An axis point.

Graphic.



Specific variation. The incomplete circle and arrowhead may be shown in a clockwise direction.

Corresponding tool pointer. The default pointer specified in clause 7 of ISO/IEC 11581-3:2000.

© ISO/IEC 2004 All rights reserved

Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

7.2.2.2 Flip

Primary function. To flip the selected object.

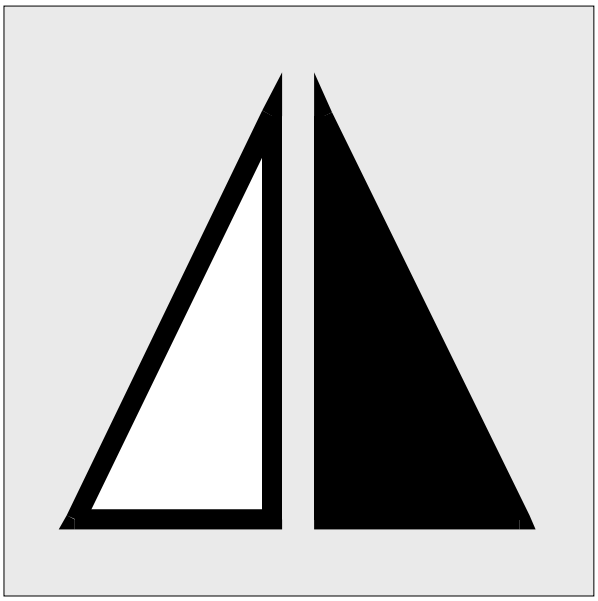
Specific instance. A mirror image.

Components.

- A right-angled, outline triangle.
- A right-angled, solid filled triangle.

NOTE These components should be arranged to indicate a mirrored image.

Graphic.



Corresponding tool pointer. The default pointer specified in clause 7 of ISO/IEC 11581-3:2000.

© ISO/IEC 2004 – All rights reserved
Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

7.2.2.3 Group

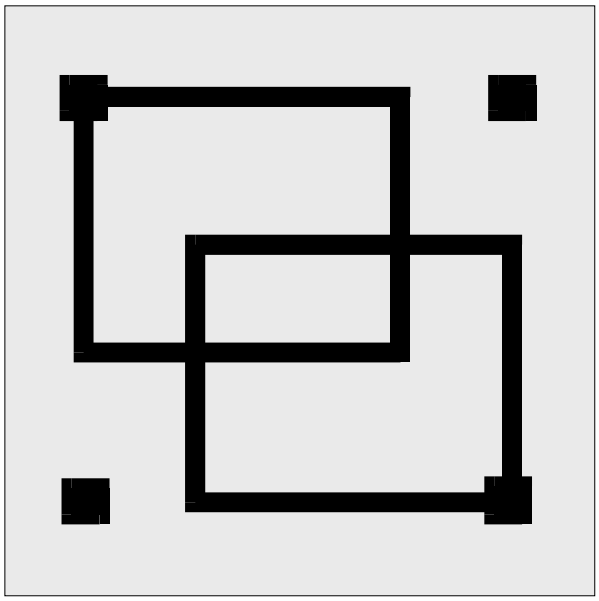
Primary function. To group selected objects for manipulation as a single unit.

Specific instance. A symbol that represents several objects drawn as a grouped object.

Components.

- Two overlapping rectangles.
- Four small solid squares located near the corners of the icon cell.

Graphic.



Corresponding tool pointer. The pointer should be as specified in clause 7.2.1.1.

© ISO/IEC 2004 All rights reserved

Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

7.2.2.4 Ungroup

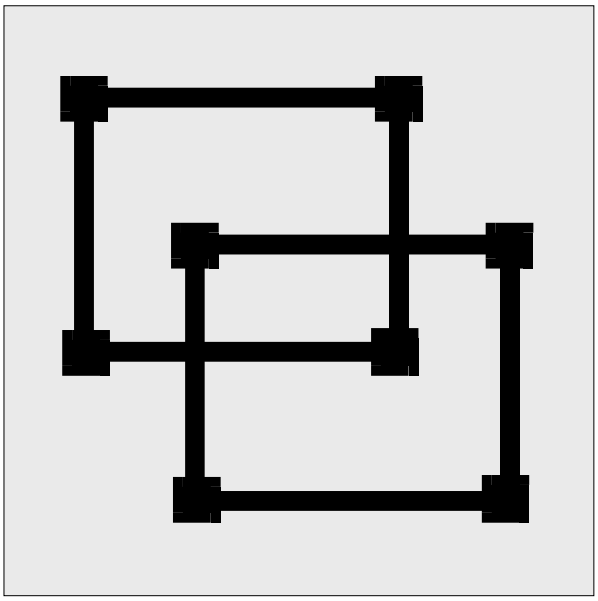
Primary function. To undo the grouping previously applied to the selected objects.

Specific instance. A symbol that represents a grouped object as a cluster of individual objects.

Components.

- Two overlapping rectangles.
- Eight small solid squares located at the corners of the rectangles.

Graphic.



Corresponding tool pointer. The pointer should be as specified in clause 7.2.1.1.

© ISO/IEC 2004 – All rights reserved
Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

7.2.3 Overview control

7.2.3.1 Background move

Primary function. To move the background “sheet of paper” in any direction.

Specific instance. A human hand.

Components. The rear view of an open, human hand.

Graphic.



Corresponding tool pointer.

- The same graphic as the tool but it can be left or right-hand oriented.
- The hot spot should be at the centre of the hand.

--`,,`-`-`,,`,,`,`,,`---

© ISO/IEC 2004 All rights reserved

Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

7.2.3.2 Zoom

Primary function. To enlarge or reduce the magnification of a selected area.

Specific instance. A magnifying glass.

Components.

- An outline circle.
- A thick diagonal line attached to the outside of the circle.

Graphic.



Specific variations. A mathematical plus or minus symbol can be added in the centre of the circle to indicate increasing or decreasing the magnification.

Corresponding tool pointer.

- The same graphic as the tool, but it can be left or right-hand oriented.
- The hot spot should be at the centre of the circle.

© ISO/IEC 2004 – All rights reserved
Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale

ICS 35.240.20

Price based on 24 pages

© ISO/IEC 2004 – All rights reserved
Copyright International Organization for Standardization
Reproduced by IHS under license with ISO
No reproduction or networking permitted without license from IHS
Not for Resale