



ISSprOM 2019-2

International Specification for Sprint Orienteering Maps

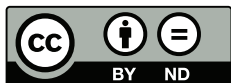
Revision 6

January 2024

This International Specification for Sprint Orienteering Maps (ISSprOM 2019-2) has been compiled and edited by the IOF Map Commission (December 2021).

Approved by IOF Council, January 2022.

Valid from 1st February 2024. Mandatory from 1st January 2025.



This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International Public License.

For additional license information <https://creativecommons.org/licenses/by-nc/4.0/>

For the full license text <https://creativecommons.org/licenses/by-nc/4.0/legalcode.txt>

ISBN: 978-91-519-0625-6

INTERNATIONAL ORIENTEERING FEDERATION

Drottninggatan 47 3½ tr, SE-65225 KARLSTAD, SWEDEN

Website: www.orienteering.sport

E-mail: iof@orienteering.sport

IOF INTERNATIONAL SPECIFICATION FOR SPRINT ORIENTEERING MAPS

1 INTRODUCTION

The sprint orienteering format has been defined by the IOF as follows:

Sprint orienteering is a fast, visible, easy-to-understand format, allowing orienteering to be staged within areas of significant population. The sprint profile is high speed. Sprint is built on very high speed running in very runnable parks, streets or forests.

The main characteristics of this specification:

- It is based on the ISOM 2017-2; but competitors and mapmakers must understand that sprint maps are special maps.
- Many of the requirements in ISOM 2017-2 will also apply to sprint maps.
- The most important difference between ISOM 2017-2 and this specification is that thick black lines are only used for uncrossable features.

Sprint orienteering differs from the longer established forms of foot orienteering. Whilst foot orienteering events traditionally have been staged mainly in forested areas, sprint events can be staged in any type of terrain. The use of parks and urban terrain in particular has important advantages: it brings the sport to where people are, and offers opportunities for increasing public and media awareness of orienteering, in accordance with the objectives of the Leibnitz Convention.

To achieve fairness, it is necessary for mapmakers and course planners to collaborate more closely than for other disciplines. The correct mapping of reduced running speed, both to degree and extent, is extremely important for sprint orienteering because of the short winning times.

In urban areas, it is not unusual to find multilevel areas. ISSprOM allows for the representation of simple underpasses and overpasses.

1.1 Conventions

Several words are used to signify the requirements in this specification:

- *Must / Shall / Required* mean that the definition is an absolute requirement.
- *Must not / Shall not* mean that the definition is an absolute prohibition.
- *Should / Recommended* mean that there may exist valid reasons in particular circumstances to ignore a particular item, but the full implications must be understood and carefully weighed before choosing a different course.
- *Should not / Not recommended* mean that there may exist valid reasons in particular circumstances when the particular behaviour is acceptable or even useful, but the full implications should be understood and the case carefully weighed before implementing any behaviour / action described with this label.
- *May / Optional* mean that an item is truly optional.

2 PRINCIPLES

2.1 Map legibility

Map legibility depends on the chosen map scale and a well-chosen set of symbols as well as the application of generalisation rules. The ideal representation would be realised if every feature could be represented in true shape. Obviously, this is impossible, and an effort to draw each feature true to scale would result in a map impossible to read. Depending on the chosen map scale, some symbols must represent features and be exaggerated in size, often far beyond the actual ground limits of the feature represented. In addition, not all features are essential for the purpose of the map.

Features that are important for navigation indicate runnability, or which are uncrossable in sprint orienteering, have been listed in Chapter 4. Features that are not important for a competitor taking part in a sprint orienteering event should not be mapped. Examples of this are waste baskets, fire hydrants, parking meters and individual street lights.

2.2 Barriers - black line width is used to show passability

It is impossible to declare an exact height when an obstacle becomes uncrossable. Effective passability depends very much on the physical characteristics of the competitors such as body height and strength.

- Barriers, such as high walls, high fences and high rock faces, affect route choices and shall be represented unambiguously. Therefore, these features shall be represented with a prominent thick black line.
- Obstacles which can be crossed, such as fences and small rock faces, are represented with a significantly thinner black line than the barrier features.
- Features which can be crossed very easily, such as steps and edges of paved areas, are represented with a very thin black line.

This principle makes it impossible to use the road and track symbols of ISOM 2017-2 in an unmodified form. The large scale of sprint orienteering maps makes it possible for roads and vehicle tracks to be represented in their true shape. Areas or objects that are forbidden to enter or cross are listed in section 17 of competition rules for orienteering events. Also national rules have to be considered.

2.3 A maximum of 2 running levels shall be mapped, with one running level mapped in detail

Complex urban structures such as bridges, canopies, underpasses or accessible areas under buildings are common in urban areas. The cartographic representation of more than one level can be difficult. Even if mapping **only one running level is always preferable**, a maximum of two running levels shall be mapped. Only passages (e.g. underpasses, lighted tunnels, bridges) between these two levels, which are important for the competitors should be represented on the map. For difficult situations, it is recommended to explain them in the bulletin.

See the document *Guidelines for mapping and course planning in complex urban structures on sprint orienteering maps* for more details.

3 BASIC ELEMENTS

3.1 Scale

The map scale shall be 1:4 000. The IOF competition rules regulate the use of map enlargements for IOF events. When a map is enlarged, all lines, symbols and screens shall be enlarged proportionally. This also applies to the course planning symbols.

For older age groups where reading fine lines and small symbols may cause problems due to deteriorating vision, enlarged maps are recommended for all formats. Enlargement to the scale 1:3 000 is always recommended for the youngest age groups where the capacity of reading complex maps is not fully developed.

3.2 Contour interval

The contour interval value shall normally be either 2 m or 2.5 m. But in some special cases of steep area 5 m is allowed. The contour is the most important element in the cartographic representation of the terrain and the only one which determines relief forms geometrically. Contour interval, contour line width and map scale should therefore be balanced in order to obtain maps with similar brownness for the same terrain using all foot orienteering map specifications. The ISSprOM contour interval has been chosen to correspond with the ISOM contour interval regarding brownness (taking into account line width and scale).

3.3 Dimensions of map symbols

No deviations from the given dimensions within these specifications are permitted. It is however accepted that due to limitations in printing technology the final map symbol dimensions may vary up to +/- 5%.

Dimensions in this book are given at the printed scale of 1:4 000.

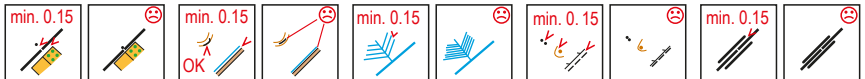
All line widths and symbol dimensions must be kept strictly to their specified value. Certain minimum dimensions must also be observed. These are based on both printing technology and the need for legibility.

Minimum gaps and dimensions

- Passages between symbols representing uncrossable features should be 0.4 mm



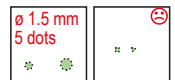
- Gap between two line symbols of the same colour: 0.15 mm
- Gap between line symbols and area symbols of the same colour: 0.15 mm



- Shortest dotted line: at least two dots
- Shortest dashed line: at least two dashes



- Opening of fences, hedges and walls: 1.0 mm
- Smallest area enclosed by a dotted line: 1.5 mm (diameter) with 5 dots



Smallest area of colour	Blue, green or yellow full colour: 0.5 mm ²
	Black dot screen: 0.5 mm ²
	Blue, brown, green or yellow dot screen: 1.0 mm ²

All features smaller than the dimensions above must be either exaggerated or omitted, depending on whether or not they are of significance to the competitor. When a feature is enlarged, neighbouring features must be displaced so that the correct relative positions are maintained.

Minimum dimensions for areas

Providing minimum dimensions for areas is difficult as the shape varies. The minimum width is as important as the minimum area. Very thin parts of areas must be exaggerated. Minimum widths for area symbols (if not specified for the symbol):

100% green: 0.25 mm (footprint 1 m).

100% yellow: 0.3 mm (footprint 1.2 m).

Colour screens: 0.4 mm (footprint 1.6 m)



Screens

Vegetation, open areas, marshes, etc. are shown with dot or line screens. The table on next page lists the permissible combinations of screens.

Other symbols cannot be combined.

3.4 Format of the map

The map format should not exceed DIN A3.

3.5 Colour concept

The document *IOF Map Specifications - Printing and Colour Definitions* applies.

		113 Broken ground	210 Stony ground	307 Uncrossable marsh	308 Marsh	310 Indistinct marsh	407 Vegetation: slow running, good visibility	409 Vegetation: walk, good visibility	512.3 Area runnable at lower level	533 Area with obstacles
213 Open sandy ground		X	X	X	X	X	X	X	use 401	X
214 Bare rock		X	X	X	X	X	X	X		X
301 Uncrossable body of water		X	X	X	X	X	X	X		X
302 Crossable body of water		X		X	X	X	X	X	use 301	X
308 Marsh				X	X	X			only 512.2	X
310 Indistinct marsh				X	X	X			only 512.2	X
401 Open land				X			X	X	use 401	
402 Open land with scattered trees				X			X	X	use 401	
403 Rough open land									use 401	
404 Rough open land with scattered trees									use 401	X
405 Forest									only 512.2	X
406 Vegetation: slow running							X	X	use 408	X
408 Vegetation: walk							X	X		X
410 Vegetation: fight							X	X		X
411 Uncrossable vegetation		X	X	X	X	X	X	X		X
501 Paved area		X	X	X	X	X	X	X		
501.3 Paved area with scattered trees		X	X	X	X	X	X	X	use 501	X
520 Area that shall not be entered		X	X	X	X	X	X	X		X
521 Building		X	X	X	X	X	X	X		X
522 Canopy		X	X	X	X	X	X	X		X

4 DEFINITION OF SYMBOLS

Definitions of features to be mapped and specifications of map symbols are given in the following sections. Symbols are classified into seven categories:

Landforms	(brown)
Rock and boulders	(black+grey)
Water and marsh	(blue)
Vegetation	(green+yellow)
Man-made features	(black)
Technical symbols	(black+blue)
Course planning symbols	(purple)

<p>Note: dimensions are specified in mm at the scale of 1:4 000. All drawings are at double scale for clarity only.</p>
<p>Type of symbols: P Point L Line A Area T Text</p>

<	gap or infill between two lines
—	line thickness
—	distance
∅	diameter
↑	symbol orientated to north
(OM)	= Outside measure
(IM)	= Inside measure
(CC)	= Centre to centre

Most of the symbols in this specification shall be orientated to north. That a symbol is to be orientated to north is indicated with an arrow pointing upward beside the symbol. When a symbol shall be orientated to north, it means that it shall be orientated to magnetic north and hence relative to the edges of the paper and the magnetic north lines.

For area symbols, colour percentages are given in the text (“green 50%”) and the illustrations (“50%”). Detailed graphical definitions for some of the symbols are provided in section 4.8 *Precise definitions of symbols*.

4.1 Landforms

101 Contour (L)

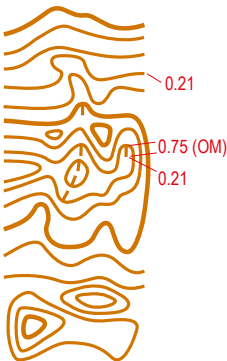
A line joining points of equal height. The standard vertical interval between contours is 2 or 2.5 m. To emphasize the 3-dimensional effect of the contour line image, contour lines shall be represented as continuous lines through all symbols, also *Building* (521) and *Canopy* (522).

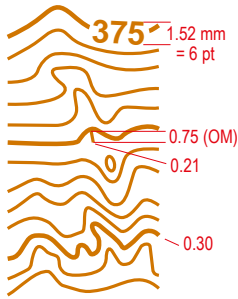
Slope lines may be drawn on the lower side of a contour line to clarify the direction of slope. When used, they should be placed in re-entrants.

However, contour lines shall be cut out for better legibility, if they touch the following symbols: *Small earth wall* (105), *Small depression* (111), *Pit or hole* (112), *Prominent landform feature* (115), *Stairway* (532). Contours shall be adapted or broken in order not to touch symbols *Small knoll* (109) or *Small elongated knoll* (110).

The relative height difference between neighbouring features must be represented on the map as accurately as possible. Absolute height accuracy is of less importance. It is permissible to alter the height of a contour slightly if this will improve the representation of a feature. This deviation should not exceed 25% of the contour interval and attention must be paid to neighbouring features. The smallest bend in a contour is 0.4 mm from centre to centre of the line.

Colour: brown.



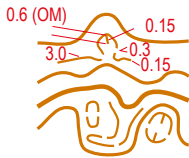


102 Index contour (L, T)

Every fifth contour shall be drawn with a thicker line. This is an aid to the quick assessment of height difference and the overall shape of the terrain surface. Where an index contour coincides with an area of much detail, it may be shown with symbol *Contour* (101).

Contour values may be included to aid assessment of large height differences. The labels shall be orientated so that the top of the label is on the higher side of the contour. They are inserted in the index contours in positions where other detail is not obscured.

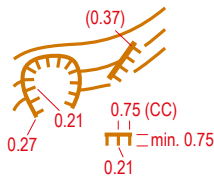
Colour: brown.



103 Form line (L)

An intermediate contour line. Form lines are used where more information can be given about the shape of the ground. They are used only where representation is not possible with ordinary contours. Only one form line may be used between neighbouring contours.

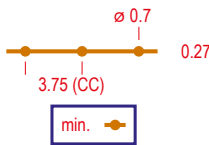
Colour: brown.



104 Earth bank (L)

A steep earth bank is an abrupt change in ground level which can be clearly distinguished from its surroundings, e.g. gravel or sand pits, roads and railway cuttings or embankments. The tags should show the full extent of the slope, but may be omitted if two banks are close together. Uncrossable banks shall be drawn with the symbol *Uncrossable cliff* (201). The line width of very high earth banks may be 0.37 mm.

Colour: brown.



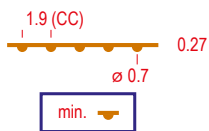
105.1 Small earth wall (L)

A small distinct earth wall, usually man-made. Larger earth walls should be represented with the symbols *Contour* (101), *Form line* (103) or *Earth bank* (104).

Minimum height: 0.5 m.

Minimum length: 1.4 mm (footprint 5.6 m).

Colour: brown.

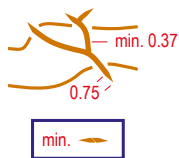


105.2 Retaining earth wall seen only from one side (L)

A retaining earth wall is an abrupt change in ground level which can be clearly distinguished from its surroundings used for minor peat edges and cultivation terraces. If such a feature is higher than 1 m, it should be drawn with the symbol *Earth bank* (104).

Minimum height: 0.5 m.

Minimum length (isolated): 1.4 mm (footprint 5.6 m).



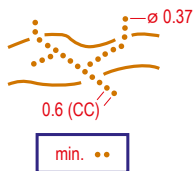
107 Erosion gully (L)

An erosion gully which is too small to be represented with the symbol *Earth bank* (104), *Contour* (101), *Index contour* (102) or *Form line* (103) is represented by a single line. The end of the line is pointed. Contour lines may be broken around this symbol for better readability.

Minimum depth: 1 m.

Minimum length: 2.0 mm (footprint 8 m).

Colour: brown.



108 Small erosion gully (L)

A small erosion gully. Contour lines shall be broken around this symbol.

Minimum depth: 0.5 m.

Minimum length (isolated): two dots (1 mm - footprint 4 m).

Colour: brown.



109 Small knoll (P)

A small obvious mound or rocky knoll which cannot be drawn to scale with a *Contour* (101), *Index contour* (102) or *Form line* (103). The symbol shall not touch or overlap contours.

Minimum height: 0.5 m.

Footprint: 3 m in diameter.

Colour: brown.



110 Small elongated knoll (P)

A small obvious elongated knoll which cannot be drawn to scale with a *Contour* (101), *Index contour* (102) or *Form line* (103). The maximum length should be 6 m and the maximum width 2 m. Knolls larger than this shall be shown by contours. The symbol shall not be drawn in free form or such that two elongated knoll symbols touch or overlap. The symbol shall not touch or overlap contours.

Minimum height: 0.5 m.

Footprint: 4.8 m x 2.4 m.

Colour: brown.



111 Small depression (P)

A small shallow natural depression or hollow which cannot be represented by the symbol *Contour* (101) or *Form line* (103) is represented by a semicircle. The symbol shall not touch or overlap other brown symbols. The symbol is orientated to north.

Minimum depth: 0.5 m.

Minimum width: 1 m.

Footprint: 4.8 m x 2.4 m.

Colour: brown.



112 Pit or hole (P)

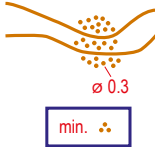
A pit or hole with distinct steep sides which cannot be represented to scale with the symbol *Earth bank* (104). The symbol is orientated to north.

Minimum depth: 0.5 m.

Minimum width: 1 m .

Footprint: 4.4 m x 5.0 m.

Colour: brown.



113 Broken ground (A)

An area of pits and / or knolls, which is too complex to be represented in detail. The density of randomly placed dots may vary according to the detail on the ground. The dots shall not interfere with the representation of important terrain features, objects or contours. Dots shall not be arranged to form a single point wide line.

Colour: brown.



115 Prominent landform feature (P)

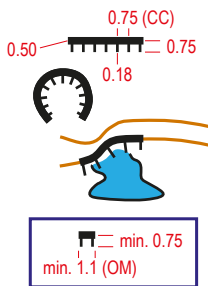
A small landform feature which is significant or prominent. The symbol is orientated to north. The symbol shall not touch or overlap contour lines or other brown symbols.

The definition of the symbol must be given on the map.

Footprint: 5.4 m x 4.6 m.

Colour: brown.

4.2 Rock and boulders



201 Uncrossable cliff (L)

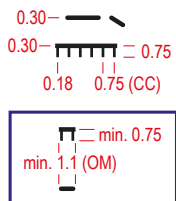
An uncrossable cliff, quarry or earth bank (see symbol *Earth bank* 104).

Tags are drawn downwards, showing its full extent from the top line to the foot. For vertical rock faces the tags may be omitted if space is short, e.g. narrow passages between cliffs (the passage should be drawn with a width of at least 0.4 mm). The tags may extend over an area symbol representing detail immediately below the rock face. When a rock face drops straight into water, making it impossible to pass under the cliff along the water's edge, the bank line is omitted or the tags shall clearly extend over the bank line. An uncrossable cliff should interplay with the contour lines.

Minimum height: 1.5 m.

Minimum length: 1.1 mm (footprint 4.4 m).

Colour: black.



202 Passable rock face (L)

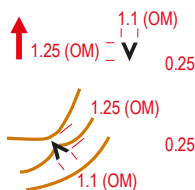
A passable cliff or quarry.

A small vertical rock face may be shown without tags. If the direction of fall of the rock face is not apparent from the contours, or to improve legibility, short tags should be drawn in the direction of the fall. For non-vertical cliffs, the tags should be drawn to show the full horizontal extent. For passable rock faces shown without tags the end of the line must be rounded to improve legibility.

Minimum height: 0.6 m.

Minimum length: 1.1 mm (footprint 4.4 m).

Colour: black.



203 Rocky pit or cave (P)

A rocky pit, hole, cave or mineshaft which may constitute a danger to the competitor. Location is the centre of gravity of the symbol, and the symbol shall be orientated to north, except for caves with a distinct entrance, where the symbol should point into the cave.

Minimum depth: 0.5 m.

Footprint: 4.4 m x 5.0 m.

Colour: black.



204 Boulder (P)

A small distinct boulder.

Every boulder marked on the map shall be immediately identifiable on the ground.

Footprint: 2.4 m in diameter.

Colour: black.

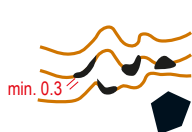


205 Large boulder (P)

A particularly large and distinct boulder.

Footprint: 3.6 m in diameter.

Colour: black.



206 Gigantic boulder or rock pillar (A)

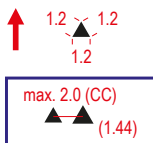
A gigantic boulder, rock pillar or massive cliff shall be represented in plan shape. The objects can vary in shape and width.

The gap between gigantic boulders or between gigantic boulders and other uncrossable feature symbols must exceed 0.15 mm on the map.

Minimum width: 0.3 mm.

Minimum area: 0.75 mm² (footprint 12 m²)

Colour: black.

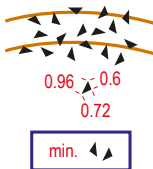


207 Boulder cluster (P)

A distinct group of boulders so closely clustered together that they cannot be marked individually. A boulder cluster must be easily identifiable as a group of boulders. To be able to show the distinction between neighbouring (maximum 8 m apart), boulder clusters with significant difference in boulder size, it is permitted to enlarge this symbol by 20% (edge length 1.44 mm) for some of the boulder clusters. The symbol is orientated to north.

Footprint: 4.8 m x 4.0 m

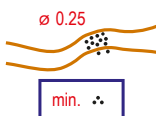
Colour: black.



208 Boulder field (A)

An area which is covered with so many scattered blocks of stone that they cannot be marked individually is represented with randomly placed and orientated solid triangles. The runnability is reduced and is indicated by the density of the triangles. A minimum of two triangles shall be used. To be able to show obvious height differences within a boulder field, it is permitted to enlarge some of the triangles to 120%.

Colour: black.



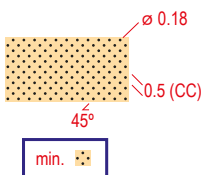
210 Stony ground (A)

An area of stony or rocky ground which reduces runnability.

The dots shall be randomly distributed with density according to the amount of rock but not interfere with the representation of important terrain features or objects. A minimum of three dots shall be used. To avoid confusion with symbol *Distinct vegetation boundary* (416), the dots shall not be arranged to form a line.

Density: Minimum 3 dots.

Colour: black.



213 Open sandy ground (A)

An area of sandy ground or soft gravel with no vegetation which reduces runnability. Where an area of sandy ground is open and has good runnability, it is represented with symbol *Open land* (401), *Open land with scattered trees* (402) or *Paved area* (501). Black dots shall not interfere with black objects.

Minimum width: 0.3 mm

Minimum area: 1 mm² (footprint 16 m²).

Colour: yellow 50%, black.



214 Bare rock (A)

An area of runnable rock without earth or vegetation.

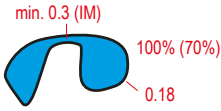
An area of rock covered with grass, moss or other low vegetation shall be represented according to its openness and runnability (401/402/403/404).

Minimum width: 0.25 mm

Minimum area: 1 mm² (footprint 16 m²).

Colour: black 35%.

4.3 Water and marsh



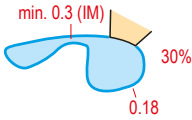
301 Uncrossable body of water (A)

An area of deep water such as a lake, pond, river or fountain which may constitute a danger to the competitor. The dark blue colour and the bordering black line indicate that the feature cannot be crossed.

Minimum width: 0.3 mm

Minimum area (inside): 0.5 mm² (footprint 8 m²)

Colour: black (outline), blue 100% or 70% for dominant areas.



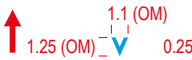
302 Shallow body of water (A)

An area of shallow water such as a pond, river or fountain that can be crossed. The body of water should be less than 0.5 m deep and runnable. If the body of water is not runnable it shall be represented with the symbol *Uncrossable body of water* (301). If no other line symbol touches the border of the passable body of water, the border shall be represented with a blue line.

Minimum width: 0.3 mm

Minimum area (inside): 0.5 mm² (footprint 8 m²)

Colour: blue (outline), blue 30%.



303 Waterhole (P)

A water-filled pit or an area of water which is too small to be shown to scale. Location is the centre of gravity of the symbol, and the symbol is orientated to north.

Footprint: 4.4 m x 5.0 m.

Colour: blue.

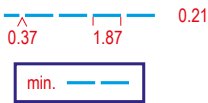


305 Small crossable watercourse (L)

A crossable watercourse less than 2 m wide.

Minimum length: 1 mm (footprint 4 m)

Colour: blue.

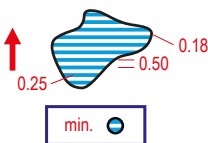


306 Minor / seasonal watercourse (L)

A natural or man-made minor watercourse which may contain water only intermittently.

Minimum length (isolated): two dashes (4.11 mm - footprint 16.5 m)

Colour: blue.

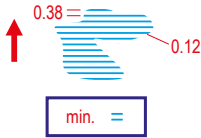


307 Uncrossable marsh (A)

A marsh which is uncrossable or which may constitute a danger to the competitor. The feature cannot be crossed. At least two blue lines shall be clearly visible. The symbol is orientated to north.

Minimum area: 2 lines.

Colour: black (outline), blue.

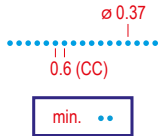


308 Marsh (A)

A crossable marsh, usually with a distinct edge. The symbol shall be combined with vegetation symbols to show runnability and openness. At least two blue lines shall be clearly visible. The symbol is orientated to north.

Minimum area: 2 lines.

Colour: blue.

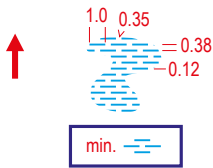


309 Narrow marsh (L)

A marsh or trickle of water which is too narrow to be shown with symbol *Marsh* (308).

Minimum size (isolated): two dots (1 mm - footprint 4 m).

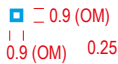
Colour: blue.



310 Indistinct marsh (A)

An indistinct or seasonal marsh or area of gradual transition from marsh to firm ground, which is crossable. The edge is generally indistinct and the vegetation similar to that of the surrounding ground. The symbol shall be combined with vegetation symbols to show runnability and openness. At least three blue lines shall be clearly visible. The symbol is orientated to north.

Colour: blue.



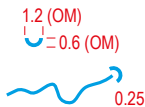
311 Small fountain or well (P)

Small fountain or well which is at least 1 m in diameter.

Minimum height: 0.5 m.

Footprint: 3.6 m x 3.6 m.

Colour: blue.

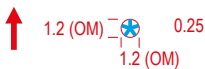


312 Spring (P)

The source of water with a distinct outflow. The symbol is orientated to open downstream.

Footprint: 4.8 m x 2.4 m.

Colour: blue.



313 Prominent water feature (P)

A small water feature which is significant or prominent. The symbol is orientated to north.

The definition of the symbol must be given on the map.

Footprint: 4.8 m in diameter.

Colour: blue.

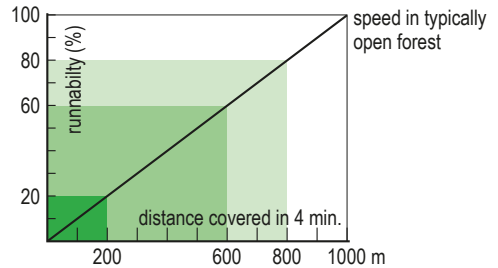
4.4 Vegetation

The representation of vegetation is important to the competitor because it affects runnability and visibility and it also provides features for map reading.

Colour and Runnability

The basic principle is as follows:

- **white** represents typical open forest,
- **yellow** represents open areas divided into several categories,
- **green** represents the density of the forest and undergrowth according to its runnability and is divided into several categories



The runnability depends on the nature of the vegetation (density of trees / scrub and undergrowth: bracken, brambles, nettles, etc.), but runnability is also affected by marshes, stony ground, etc. which are shown by separate symbols.



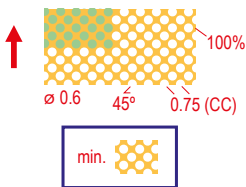
401 Open land (A)

An area of cultivated land, lawn, field, meadow, grassland, bark mulch etc. without trees, offering very good runnability. If yellow coloured areas become dominant, a screen (75% instead of full yellow) may be used.

Minimum width: 0.3 mm.

Minimum area: 0.5 mm² (footprint 8 m²).

Colour: yellow (or yellow 75%).



402 Open land with scattered trees (A)

An area of meadows with scattered trees or bushes, with grass or similar ground cover offering very good runnability. The dots may be white (scattered trees) or green (scattered bushes / thickets). Symbols *Prominent large tree* (417) and *Prominent bush or small tree* (418) may be added. The symbol is orientated to north.

Minimum width: 2.2 mm

Minimum area: 6.25 mm² (footprint 100 m²)

Smaller areas must be left out, exaggerated or shown using the symbol *Open land* (401).

Colour: yellow with holes of white or green 60%



50%



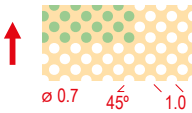
403 Rough open land (A)

An area of heath or moorland, a felled area, a newly planted area (trees lower than ca. 1 m) or other generally open land with rough ground vegetation, i.e. heather or tall grass. This symbol may be combined with symbols *Vegetation: slow running, good visibility* (407) and *Vegetation: walk, good visibility* (409) to show reduced runnability.

Minimum width: 0.4 mm

Minimum area: 1 mm² (footprint 16 m²).

Colour: yellow 50%.



50%



404 Rough open land with scattered trees (A)

An area of rough open land with scattered trees or bushes. The dots may be white (scattered trees) or green (scattered bushes / thickets). Symbols *Prominent large tree* (417) and *Prominent bush or small tree* (418) may be added. Only the white dot variant can be combined with symbol *Vegetation: slow running, good visibility* (407) or *Vegetation: walk, good visibility* (409) to show reduced runnability.

Minimum width: 2.5 mm.

Minimum area: 6.25 mm² (footprint 100 m²)

Smaller areas must be left out, exaggerated or shown using either the symbol *Rough open land* (403) or *Forest* (405).

Colour: yellow 50% with holes of white or green 60%.



405 Forest (A)

Typical open forest for the particular type of terrain. If no part of the forest is easily runnable then no white should appear on the map.

Minimum width (for openings): 0.3 mm.

Minimum area: 1 mm² (footprint 16 m²) for openings in screens of other colours, except for *Vegetation: walk* (408) and *Open land* (401), where the minimum area is 0.5 mm² (footprint 8 m²) and for openings in *Vegetation: fight* (410), where the minimum area is 0.3 mm² (footprint 5 m²).

Colour: white.



30%

1.5

0.4

min.

0.4



406 Vegetation: slow running (A)

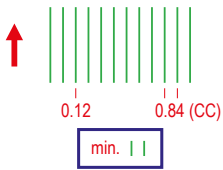
An area with dense vegetation (low visibility) which reduces running to about 60-80% of normal speed.

When runnability is better in one direction a regular pattern of white stripes is left in the screen to show the direction of better running. At least two white stripes shall be clearly visible.

Minimum width: 0.4 mm.

Minimum area: 1 mm² (footprint 16 m²).

Colour: green 30%.

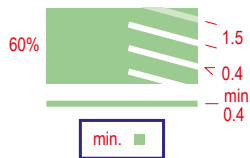


407 Vegetation: slow running, good visibility (A)

An area of good visibility and reduced runnability due to, for instance, undergrowth (brambles, heather, low bushes, cut branches, etc.). Running speed is reduced to about 60-80% of normal speed. This symbol shall not be combined with the symbol *Vegetation: slow running* (406) or *Vegetation: walk* (408).

Minimum width: 2 lines.

Colour: green.



408 Vegetation: walk (A)

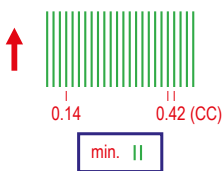
An area with dense trees or thicket (low visibility) which reduces running to about 20-60% of normal speed.

When runnability is better in one direction, a regular pattern of white / green 30% stripes is left in the screen to show the direction of better running. At least two stripes shall be clearly visible.

Minimum width: 0.4 mm.

Minimum area: 0.5 mm² (footprint 8 m²).

Colour: green 60%.

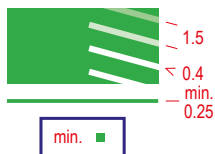


409 Vegetation: walk, good visibility (A)

An area of good visibility and reduced runnability due to, for instance, undergrowth (brambles, heather, low bushes, cut branches, etc.). Running speed is reduced to about 20-60% of normal speed. This symbol shall not be combined with the symbol *Vegetation: slow running* (406) or *Vegetation: walk* (408).

Minimum width: 2 lines.

Colour: green.



410 Vegetation: fight (A)

An area of dense vegetation (trees or undergrowth) which is barely passable. Running reduced to less than about 20% of normal speed.

When runnability is better in one direction a regular pattern of white / green 30% / green 60% stripes is left in the screen to show the direction of better running.

At least two stripes shall be clearly visible.

Minimum area: 0.3 mm² (footprint 5 m²).

Minimum width: 0.25 mm.

Colour: green / green 60% / green 30%.



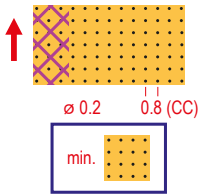
411 Uncrossable vegetation (A)

Uncrossable vegetation is an area of vegetation (for example a hedge) that shall not be crossed or passed through since there may be a danger that private property or the vegetation itself is damaged.

Minimum area: 0.3 mm² (footprint 5 m²).

Minimum width: 0.4 mm.

Colour: dark green



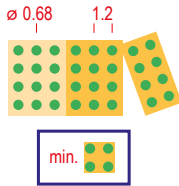
412 Cultivated land (A)

Cultivated land, normally used for growing crops. Runnability may vary according to the type of crops grown and the time of year. Since the runnability may vary, such areas should be avoided when setting courses. The symbol is combined with symbol *Out-of-bounds area* (709) to show cultivated land that shall not be entered. The symbol is orientated to north.

Minimum width: 3 mm.

Minimum area: 9 mm² (footprint 144 m²).

Colour: yellow, black.



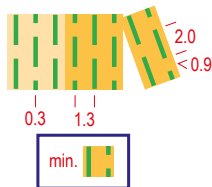
413 Orchard (A)

Land planted with fruit trees or bushes, normally in regular pattern. The dot lines may be orientated to show the direction of planting. At least four dots shall be clearly visible. Must be combined with either symbol *Open land* (401) or *Rough open land* (403).

Minimum width: 2 mm.

Minimum area: 4 mm² (footprint 64 m²)

Colour: green, yellow or yellow 50%.



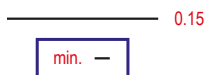
414 Vineyard or similar (A)

A vineyard or similar cultivated land containing dense rows of plants offering good or normal runnability in the direction of planting. The lines shall be orientated to show the direction of planting. At least three lines shall be clearly visible. Must be combined with either symbol *Open land* (401) or *Rough open land* (403).

Minimum width: 2 mm.

Minimum area: 4 mm² (footprint 64 m²)

Colour: green, yellow or yellow 50%.

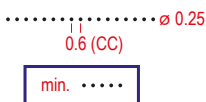


415 Distinct cultivation boundary (L)

A boundary of symbol cultivated land vegetation (401, 412, 413, 414) or a permanent boundary between different types of cultivated land, when not shown with other symbols (fence, wall, path, etc.)

Minimum length: 1 mm (footprint 4 m).

Colour: black.



416 Distinct vegetation boundary (L)

A very distinct vegetation boundary within the forest, or a distinct forest edge. For indistinct boundaries, the area edges are shown only by the change in colour and / or dot screen.

Minimum length (isolated): five dots (2.65 mm - footprint 10.6 m)

Colour: black.



417 Prominent large tree (P)

A prominent large single tree.

White mask is used under the green circle, to improve readability in yellow and green (OM 1.4 mm).

Footprint: 4.8 m in diameter (OM 5.6 m).

Colour: green, white.



418 Prominent bush or small tree (P)

A prominent bush or a small single tree.

Small white dot inside is used to aid the colour vision impaired.

Footprint: 3.2 m in diameter.

Colour: green, white.



419 Prominent vegetation feature (P)

A vegetation feature which is significant or prominent.

White mask is used under the green cross, to improve readability in yellow and green (line width of white mask 0.50 mm, and it shall be 0.25 mm longer in the ends of the symbol).

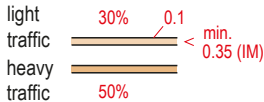
The symbol is orientated to north.

The definition of the symbol must be given on the map.

Footprint: 4.8 m x 4.8 m (OM 7.1 m x 7.1 m).

Colour: green, white.

4.5 Man-made features



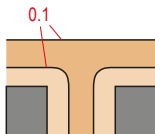
501 Paved area (A)

A paved area is an area with a firm surface such as asphalt, hard gravel, tiles, concrete or the like. It should be bordered (or framed) by the symbol *Step or edge of paved area* (501.1). Distinct differences within the paved area can be represented with the symbol *Step or edge of paved area* (501.1), if they serve navigation. The black border line can be omitted where it is logical (e.g. indistinct / gradual gravel-to-grass transitions).

Differences in the brown colour shall be used to show differences in the traffic of vehicles or pedestrians.

Minimum width: 0.35 mm (IM)

Colour: brown 30% for light traffic of vehicles or pedestrians, 50% for heavy traffic of vehicles or pedestrians, black.

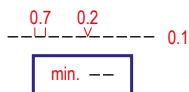


501.1 Step or edge of paved area (L)

An edge of a paved area.

Edges within paved areas are generally not represented, unless they serve navigation.

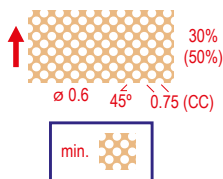
Colour: black.



501.2 Step or edge of paved area at lower level (L)

This symbol shall only be used in large areas with two levels, when it is necessary for orientation. A cartographic gap of 0.15 mm shall apply at both ends of the line.

Colour: black



501.3 Paved area with scattered trees (A)

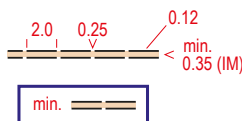
Area with scattered trees or bushes in a paved area.

Minimum width: 2.2 mm

Minimum area: 6.25 mm² (footprint 100 m²)

Smaller areas must be left out, exaggerated or shown using the symbol *Paved area* (501).

Colour: brown 30% (50%) with holes of white.

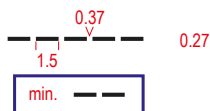


505 Unpaved footpath or track (L)

An unpaved footpath or rough vehicle track is a way for passing mainly by foot, without a smooth, hard surface. The colour shall be the same as for the symbol *Paved area* (501).

Minimum width: 0.35 mm (IM)

Colour: black, brown 30%.

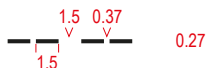


506 Small unpaved footpath or track (L)

A small unpaved footpath or track.

Minimum length (isolated): two dashes (3.4 mm - footprint 13.6 m).

Colour: black.

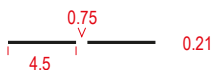


507 Less distinct small path (L)

A less distinct path or forestry extraction track.

Minimum length: two sections of double dashes (7.9 mm - footprint 31.6 m).

Colour: black.

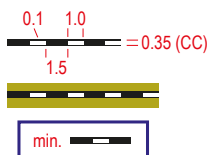


508 Narrow ride (L)

A distinct ride is a linear break in the forest (usually in a plantation), which does not have a distinct path along it. Where there is a path along a ride, the symbol *Small unpaved footpath or track* (506) shall be used.

Minimum length: two dashes (9.75 mm - footprint 39 m).

Colour: black.

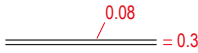


509.1 Railway (L)

A railway is a permanent track laid with rails on which locomotives, carriages or wagons can travel. If it is forbidden to cross or run along the railroad, the forbidden area around the railway shall be represented with symbol *Area that shall not be entered* (520).

Minimum length (isolated): two black dashes (4 mm - footprint 16 m).

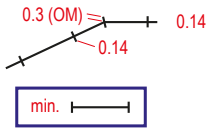
Colour: black, white.



509.2 Tramway (L)

A tramway is a public vehicle running regularly along certain streets, usually on rails. The track can be easily crossed by the competitor. Tramways are generally not represented. However, if they serve navigation or orientation, they can be represented.

Colour: black.



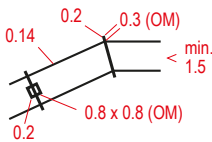
510 Power line, cableway or ski lift (L)

Power line, cableway or ski lift.

The bars indicate the exact location of the pylons. If a section of a power line, cableway or ski lift goes along a road or path (and does not offer significant additional navigational value) it should be omitted.

Minimum length: 3.75 mm (footprint 15 m)

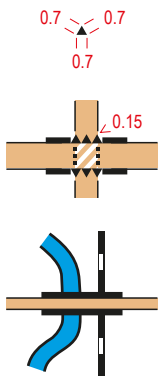
Colour: black.



511 Major power line (L)

Major power lines should be drawn with a double line. The gap between the lines may indicate the extent of the powerline. Very large carrying masts shall be represented in plan shape using symbol *Building* (521) or *High tower* (524). In this case, the cable lines can be left out (the map shows only the pylons).

Colour: black.



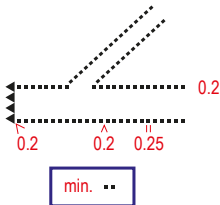
512.1 Bridge or tunnel entrance (L)

A bridge is a structure spanning and permitting passage over a river, chasm, road or the like. A simple bridge, where it is possible to pass underneath, is represented by this symbol. A cartographic gap of 0.15 mm shall apply to the black objects pointing towards the peaks of the triangles. Special attention must be paid to the drawing of sharp angles.

A simple bridge, which cannot be passed underneath, shall be represented using symbol *Uncrossable wall* (515).

Minimum: one triangle in complex situation (**should be avoided**), two triangles in a standalone situation.

Colour: black.



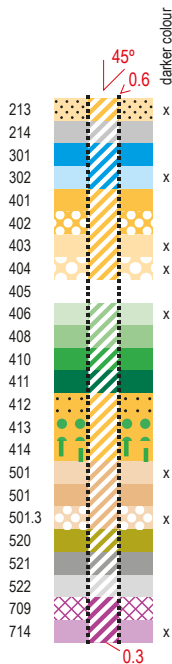
512.2 Underpass or tunnel (L)

An underpass or a tunnel is a passage running underneath the ground or a building, especially a passage for pedestrians or vehicles. A cartographic gap of 0.2 mm shall apply at the beginning and the end of the line. The line is only used when there is no other barrier line defining the extent of the lower level area.

For very short underpasses or tunnels where there is not enough space for a line of minimum length, the line can be omitted if the area is also delimited by the symbol *Area runnable at lower level* (512.3).

Minimum length: 2 dashes at full size (0.7 mm - footprint 2.8 m).

Colour: black.

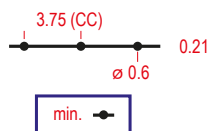


512.3 Area runnable at lower level (A)

Upper part of a two-level structure which can be passed at two levels (except the symbols *Uncrossable body of water* (301), *Area that shall not be entered* (520) and *Building* (521)). The angle of the pattern is approximately 45° to the direction of the axis of the described area.

Combinations possible with the symbols *Open sandy ground* (213) (replaced with symbol *Open land* (401) within striped area), *Bare rock* (214), *Uncrossable body of water* (301), *Shallow body of water* (302) (replaced with symbol *Uncrossable body of water* (301) within striped area), *Open land* (401), *Open land with scattered trees* (402) (replaced with symbol *Open land* (401) within striped area), *Rough open land* (403) (replaced with symbol *Open land* (401) within striped area), *Rough open land with scattered trees* (404) (replaced with symbol *Open land* (401) within striped area), *Vegetation: slow running* (406) (replaced with symbol *Vegetation: walk* (408) within striped area), *Vegetation: walk* (408), *Vegetation: fight* (410), *Uncrossable vegetation* (411), *Cultivated land* (412) (replaced with symbol *Open land* (401) within striped area), *Orchard* (413) and *Vineyard or similar* (414) (replaced with symbol *Open land* (401) within striped area), *Paved area* (501), *Paved area with scattered trees* (501.3) (replaced with symbol *Paved area* (501) within striped area), *Area that shall not be entered* (520), *Building* (521), *Canopy* (522), *Out-of-bounds area* (709) (replaced with colour 100% upper purple within striped area), *Temporary construction or closed area* (714) (replaced with colour 100% upper purple within striped area) in the striped area.

Colour: white

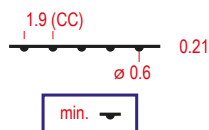


513.1 Passable wall (L)

A passable wall is a construction made of stone, brick, concrete etc., which can be passed. If such a wall is higher than 1.5 m, it shall be represented with the symbol *Uncrossable wall* (515). Wide walls shall be drawn in plan shape using a ground symbol delineated by the passable wall symbol. It should be dotted if possible (minimum length around the dot 0.4 mm each side)

Minimum length (isolated): 1.4 mm (footprint 5.6 m).

Colour: black.



513.2 Passable retaining wall (L)

A passable wall which is seen only from one side. Half dot must point to the lower level. Height is 0.6 - 1.5 m. If lower, use symbol *Step or edge of paved area* (501.1).

Minimum length (isolated): 1.4 mm (footprint 5.6 m).

Colour: black.

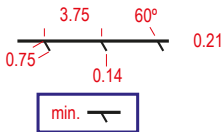


515 Uncrossable wall (L)

An uncrossable wall or retaining wall is a wall, which fulfil the function of an enclosure or solid barrier. It shall not be crossed, because it may constitute a danger to the competitor due to its height or due to the risk of damage to private property or the wall itself. Very wide uncrossable walls shall be drawn in plan shape and represented with the symbol *Building* (521).

Minimum length: 1 mm (footprint 4 m).

Colour: black.



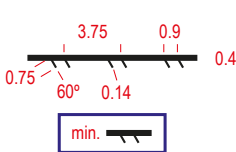
516 Passable fence or railing (L)

A passable fence is a barrier enclosing or bordering a field, yard, etc., usually made of posts and wire or wood. It is used to prevent entrance or to confine or mark a boundary. A railing is a fencelike barrier composed of one or more horizontal rails supported by widely spaced upright poles, usually it can be slipped through.

If a fence or railing is dangerous or very difficult to cross, it shall be represented with the symbol *Uncrossable fence or railing* (518).

Minimum length (isolated): 2.2 mm (footprint 8.8 m).

Colour: black.

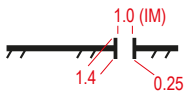


518 Uncrossable fence or railing (L)

An uncrossable fence or railing shall not be crossed, because it may constitute a danger to the competitor due to its height or due to the risk of damage to private property or the fence itself. If the minimum length is shorter than 3 mm, it must be presented with the symbol *Uncrossable wall* (515).

Minimum length (isolated): 3 mm (footprint 12 m).

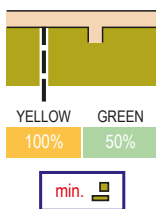
Colour: black.



519 Crossing point (optional) (P)

A crossing point is a gap or an opening in a fence, railing or wall, which can easily be passed through by a competitor. Small gaps or openings which cannot easily be passed through by competitors, shall not be represented on the map and shall be closed during the competition.

Colour: black.



520 Area that shall not be entered (A)

An area that shall not be entered such as a private area, a flower bed, a railway area etc. No feature shall be represented in this area, except very prominent features such as railways, large buildings, or very large trees. Road entrances shall be represented clearly.

Paths and roads which are not allowed to run shall not be mapped.

Areas that shall not be entered totally contained within buildings shall be mapped as being a part of the building.

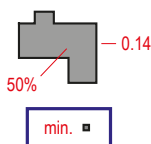
The area shall always be delineated by a boundary line (at least 0.1 mm in width).

The area shall be discontinued where a path goes through and white colour is used as background with overlap 0.15 mm on both sides.

Minimum width: 0.25 mm (footprint 1 m).

Minimum area: 0.25 mm² (footprint 4 m²).

Colour: yellow 100%, green 50%.



521 Building (A)

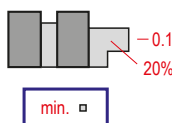
A building is a relatively permanent construction having a roof. Buildings within symbol *Area that shall not be entered* (520) may just be represented in a simplified manner. Areas totally contained within a building shall be mapped as being a part of the building.

The minimum gap between buildings and other uncrossable features shall be 0.40 mm. Boundaries in touching buildings shall not be represented.

Minimum width: 0.5 mm.

Minimum area: 0.25 mm² (footprint 4 m²).

Colour: black (outline), black 50%.



522 Canopy (A)

A canopy is a building construction (with a roof), normally supported by pillars, poles or walls, such as passages, gangways, courts, bus stops, gas stations or garages. Small passable parts of buildings which cannot easily be crossed by competitors, shall not be represented on the map and shall be closed during the competition.

Minimum width: 0.5 mm.

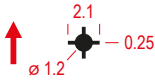
Minimum area: 0.25 mm² (footprint 4 m²).

Colour: black (outline), black 20%.



522.1 Pillar (P)

A pillar is an upright shaft or structure of stone, brick or other material, relatively slender in proportion to its height and any shape in section, used as a building support. Pillars smaller than 1 m × 1 m are generally not represented. Colour: black.



524 High tower (P)

A high tower or large pylon. Very large towers shall be represented in plan shape with the symbol *Building* (521). The symbol is orientated to north.

Footprint: 8.4 m in diameter.

Colour: black.



525 Small tower (P)

An obvious small tower, elevated platform or seat. The symbol is orientated to north.

Footprint: 6 m x 6 m.

Colour: black.



526 Cairn, memorial, sculpture, small monument or boundary stone (P)

Cairn, memorial, sculpture, small monument or boundary stone that is obvious. Large massive monuments shall be represented in plan shape with the symbol *Building* (521).

Footprint: 4 m in diameter.

Colour: black.

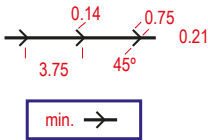


527 Fodder rack (P)

A fodder rack, which is free standing or attached to a tree. The symbol is orientated to north.

Footprint: 6 m x 6 m.

Colour: black.

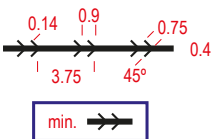


528 Prominent line feature (L)

A prominent man-made line feature. For example, a low pipeline (gas, water, oil, heat, etc.) or a bobsleigh / skeleton track that is clearly visible. The definition of the symbol must be given on the map.

Minimum length: 2.2 mm (footprint 8.8 m).

Colour: black.



529 Prominent uncrossable line feature (L)

An uncrossable man-made line feature. For example, a high pipeline (gas, water, oil, heat, etc.) or a bobsleigh / skeleton track. The definition of the symbol must be given on the map.

Minimum length: 3 mm (footprint 12 m).

Colour: black.



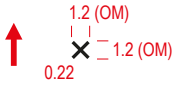
530 Prominent man-made feature – ring (P)

A man-made feature which is significant or prominent.

The definition of the symbol must be given on the map.

Footprint: 4 m in diameter.

Colour: black.



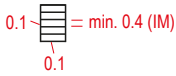
531 Prominent man-made feature – x (P)

Location is at the centre of gravity of the symbol, and the symbol is orientated to north.

The definition of the symbol must be given on the map.

Footprint: 4.8 m x 4.8 m.

Colour: black.



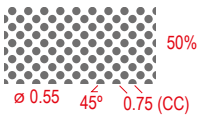
532 Stairway (L)

Steps of a stairway shall be represented in a generalized manner.

Minimum length: 3 (graphical) steps.

Minimum width: 0.4 mm (IM).

Colour: black.



533 Area with obstacles (A)

An area with several man-made features that are too small or close to be mapped individually and that constitute obstacles to the runners. The area cannot be crossed at full speed.

Minimum area: 65 m²

Colour: black 50%.

4.6 Technical symbols



601 Magnetic north line (L)

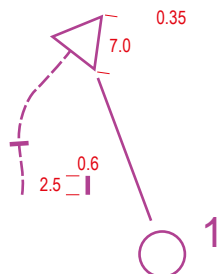
Magnetic north lines are lines placed on the map pointing to magnetic north.

Their spacing shall be 30 mm, they represent 120 m on the ground. North lines may be broken where they obscure small features such as boulders, knolls, cliffs, stream junctions, path ends, etc.

Colour: black or blue.

4.7 Course planning symbols

The dimensions of the course planning symbols are specified in mm at the printed scale of 1:4 000. For larger map scales the symbols shall be enlarged proportionally (to 133% for 1:3 000). They shall not mask out map detail of at least black, brown and blue 100%. **Drawings in this section are at 1:4 000.**



701 Start (P)

The place where the orienteering starts. The centre of the triangle shows the precise position where the orienteering course starts. The start must be on a clearly identifiable point on the map. The triangle points in the direction of the first control.

Colour: purple (lower purple).

702 Map issue point (P)

If there is a marked route to the start point, the map issue point is marked using this symbol.

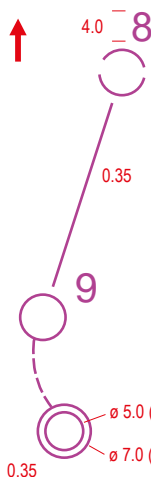
Colour: purple (upper purple).



703 Control point (P)

The control points are shown with circles (footprint 24 m). The centre of the circle shows the precise position of the feature. Sections of circles should be omitted to leave important detail showing.

Colour: purple (lower purple).



704 Control number (T)

The number of the control is placed close to the control point circle in such a way that it does not obscure important detail. The numbers are orientated to north. An option for heavily building filled map is the possibility to have a white border with 0.1 or 0.15 mm in width.

Font: Arial, 4.0 mm, non-bold, non-italic.

Colour: purple (upper purple, optional white outline 0.15 mm).

705 Course line (L)

Where controls are to be visited in order, the start, control points and finish are joined together by straight lines. Sections of lines should be omitted to leave important detail showing.

Colour: purple (lower purple).

706 Finish (P)

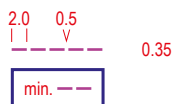
The finish is shown by two concentric circles.

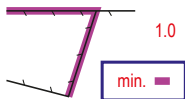
Colour: purple (lower purple).

707 Marked route (L)

A marked route is shown on the map with a dashed line.

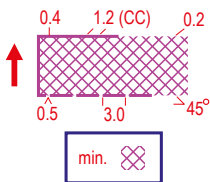
Colour: purple (upper purple).





708 Out-of-bounds boundary (L)

An out-of-bounds boundary shall not be crossed. It shall be used for temporary uncrossable boundaries used for the course setting.
Colour: purple (lower purple).



709 Out-of-bounds area (A)

An out-of-bounds area. A bounding line may be drawn if there is no natural boundary as follows:

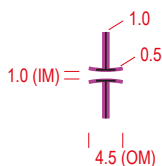
- a solid line indicates that the boundary is marked continuously (tapes, etc.) in the terrain,
- a dashed line indicates intermittent marking in the terrain,
- no line indicates no marking in the terrain.

An out-of-bounds area shall not be entered.

Minimum width: 3 mm.

Minimum area: 9 mm² (footprint 144 m²).

Colour: purple (upper purple).



710.1 Crossing point (P)

A crossing point through or over a wall or fence, or across a road or railway or through a tunnel or an out-of-bounds area is drawn on the map with two lines curving outwards.

If underpasses or tunnels etc. are to be used in a competition, they may be emphasized with symbol Crossing point (710.1) or Crossing section (710.2).

Colour: purple (lower purple).

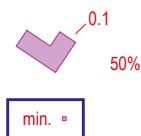


710.2 Crossing section (L)

A crossing section through or over a building, wall or fence, or across a road or railway or through a tunnel or an out-of-bounds area is drawn on the map as a linear object, according to the plan shape.

If underpasses or tunnels etc. are to be used in a competition, they may be emphasized with symbol Crossing point (710.1) or Crossing section (710.2).

Colour: purple (upper purple).



714 Temporary construction or closed area (A)

Obvious temporary constructions like platforms for spectators and speaker, closed area for spectators, outside restaurant areas, etc. shall be represented in plan shape.

Minimum width: 0.5 mm.

Minimum area: 0.25 mm² (footprint 4 m²).

Colour: purple (outline), purple 50% (upper purple).



715 Continuing point after map exchange

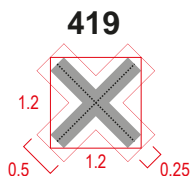
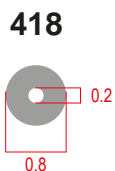
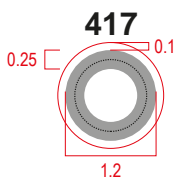
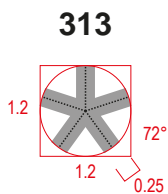
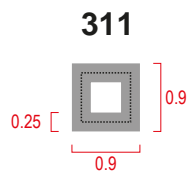
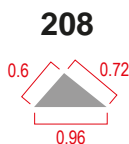
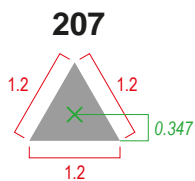
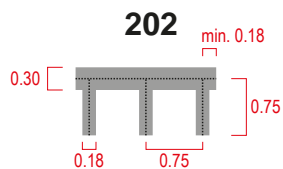
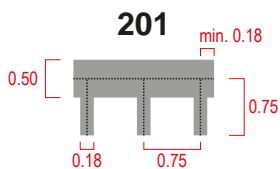
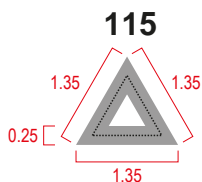
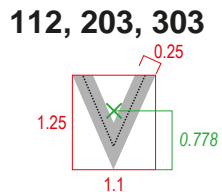
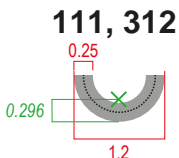
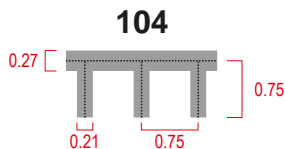
Symbol marking the continuation of the course after the map flip or the map exchange. The triangle points in the direction of the following control.

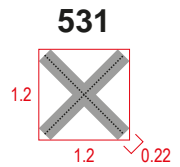
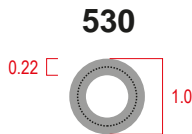
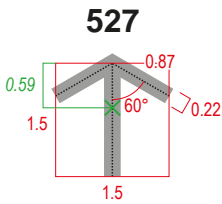
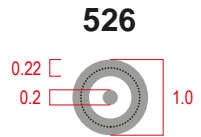
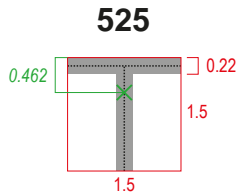
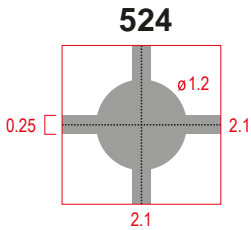
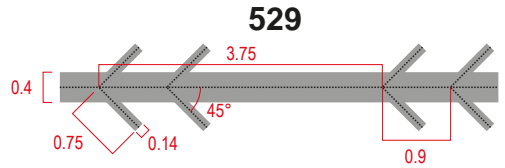
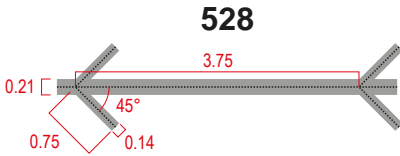
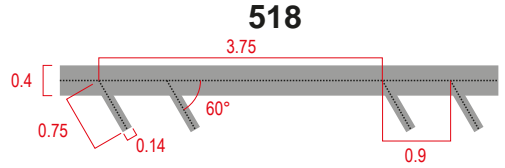
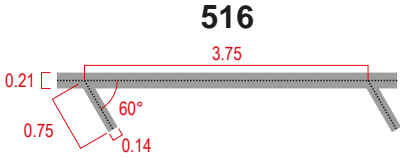
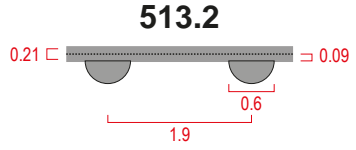
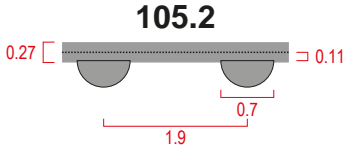
Colour: purple (lower purple)

4.8 Precise definition of symbols

Note: dimensions are specified in mm.

All drawings are magnified (10x) for clarity only. The centre of gravity is marked (x) when it is not unambiguous





Errata (changes to the document):

Date	Nr	Symbol	Description
20.01.2020	701 -714	Course planning symbols	Precise definition of colour: upper and lower purple.
17.05.2020	501.3	Paved area with scattered trees	Correction of the symbol for exaggeration from <i>Open Land</i> (401) to <i>Paved area</i> (501); Complementing 50% to the colour brown; Correction of the percentage in the graphic: 30% (50%).
17.05.2020	101	Contour	Adding <i>Stairway</i> (532) as a symbol, where contour lines shall be cut out for better legibility.
02.01.2022	104	Earth bank	Correction of dimensioning corresponding to the precise definition of symbols.
02.01.2022	108	Small erosion gully	Change of minimum number: 3 --> 2 dots.
02.01.2022	201	Uncrossable cliff	Change of the name of the symbol; Correction of dimensioning corresponding to the precise definition of symbols.
02.01.2022	202	Passable rock face	Correction of dimensioning corresponding to the precise definition of symbols.
02.01.2022	410	Vegetation:fight	Change of the name of the symbol; Change of minimum width: 0.4 --> 0.25 mm.
02.01.2022	411	Uncrossable vegetation	New symbol.
02.01.2022	417	Prominent large tree	Change of diameter of symbol (white mask): 1.0 (1.2) --> 1.2 (1.4) mm.
02.01.2022	501.2	Step or edge of paved area at lower level	New symbol.
02.01.2022	505	Unpaved footpath or track	Change of line width: 0.1 --> 0.12 mm.
02.01.2022	512.1	Bridge or tunnel entrance	Change of the name of the symbol; New symbol graphics.
02.01.2022	512.2	Underpass or tunnel	Change of size: 0.25 x 0.25 --> 0.25 x 0.2 mm; Change of gap: 0.25 --> 0.2 mm.
02.01.2022	512.3	Area passable at two levels	Former symbol <i>Paved area in multilevel structures</i> (501.2); Completed with all possible combinations.
02.01.2022	515	Uncrossable wall	Change of the name of the symbol.
02.01.2022	518	Uncrossable fence	Change of the name of the symbol.
02.01.2022	521	Building	Change of colour: 60% --> 50%.
02.01.2022	529	Prominent uncrossable line feature	Change of the name of the symbol.
02.01.2022	532	Stairway	Correction of the graphic of the symbol.
02.01.2022	701 - 714	Course planning symbols	Graphics of the symbols are drawn at the scale of 1:4 000
02.01.2022	709	Out of bounds area	Change of line width of cross hatch: 0.25 --> 0.2 mm; Change of gap of cross hatch: 0.8 --> 1.2 mm; Change of minimum sizes,
02.01.2022	710.1 710.2	Crossing point, crossing section	..., they may be emphasized

Date	Nr	Symbol	Description
15.02.2022	201 202	Uncrossable cliff, passable rock face	Correction of minimum sizes.
15.02.2022	208	Boulder field	Correction of the graphic of the symbol.
15.02.2022	307	Uncrossable marsh	Correction of minimum size.
15.02.2022	310	Indistinct marsh	Correction of the graphic of the symbol.
21.02.2022	101	Contour lines	Contour lines shall be adapted or, if not possible, cut in order not to touch symbols Small knoll (109) or Small elongated knoll (110).
16.09.2022			Chapter 3.3: Addition of hedges to minimum openings.
16.09.2022	416	Distinct vegetation boundary	Correction of definition of the symbol.
16.09.2022	515	Uncrossable wall	Addition of minimum length: 1 mm.
01.02.2024			Chapter 3.3: Corrected table of combinations of screens.
01.02.2024	101	Contour	Change of text: Contours shall be adapted or broken ...
01.02.2024	105.1	Small earth wall	Change of the number of the symbol: 105 --> 105.1; Correction of line width: 0.18 --> 0.27 mm; Correction of dot size: 0.6 --> 0.7 mm.
01.02.2024	105.2	Retaining earth wall	New symbol.
01.02.2024	107	Erosion gully	Deletion of trench in the name and the text of the symbol.
01.02.2024	108	Small erosion gully	Deletion of trench in the text; Change of text: Contour lines shall be broken around this symbol.
01.02.2024	113	Broken ground	Change of graphic: \emptyset 0.2 - 0.3 mm --> \emptyset 0.3 mm; Deletion in text: Contours shall not be cut in broken ground areas.
01.02.2024	207	Boulder cluster	Deletion in text: minimum height.
01.02.2024	210	Stony ground	Change of graphic: \emptyset 0.2 - 0.25 mm --> \emptyset 0.25 mm.
01.02.2024	214	Bare rock	Change of colour: 30% --> 35%.
01.02.2024	302	Shallow body of water	Change of the name of the symbol.
01.02.2024	307	Uncrossable marsh	Change in text: Minimum size .
01.02.2024	308	Marsh	Change in text: Minimum size .
01.02.2024	401	Open land	Adding to text: If yellow coloured areas become dominant, a screen (75% instead of full yellow) may be used.
01.02.2024	403	Rough open land	Adding to text: minimum width: 0.4 mm.
01.02.2024	404	Rough open land with scattered trees	Change of dot size: 0.8 mm --> 0.7 mm.
01.02.2024	410	Vegetation: fight	Addition of colour green 60 % / green 30%; Correction of the graphic of the symbol.
01.02.2024	415	Distinct cultivation boundary	Change of line width: 0.1 mm --> 0.15 mm.

Date	Nr	Symbol	Description
01.02.2024	501	Paved area	Adding to text and graphic: minimum width: 0.35 mm (IM).
01.02.2024	505	Unpaved footpath or track	Adding to graphic:(IM).
01.02.2024	509.1	Railway	Adding to text: Minimum length (isolated): two black dashes (4 mm - footprint 16 m).
01.02.2024	509.2	Tramway	Change of line width: 0.1 --> 0.08 mm; Change of colour: 50% --> 100% black.
01.02.2024	512.2	Underpass or tunnel	Change and correction of minimum size: 2 dashes at full size (0.7 mm - footprint 2.8 m).
01.02.2024	512.3	Area runnable at lower level	Change of the name of the symbol; Correction of the graphic of the symbol; Change of the text in paragraph: Combinations possible with symbols
01.02.2024	513.2	Passable retaining wall	Change of the graphic; Change of minimum length: 2.4 --> 1.4 mm.
01.02.2024	515	Uncrossable wall	Adding to graphic: minimum length.
01.02.2024	520	Area that shall not be entered	Adding to text: The area shall be discontinued where a path goes through and white colour is used as background with overlap 0.15 mm on both sides; Correction of the graphic of the symbol.
01.02.2024	525	Small tower	Adding to text: elevated platform.
01.02.2024	526	Cairn, memorial, sculpture, small monument or boundary stone	Change of name of symbol.
01.02.2024	533	Area with obstacles	New symbol.
01.02.2024	701	Start	Changing text as in ISOM.
01.02.2024	709	Out-of-bounds area	Change of line width: 0.25 mm --> 0.4 mm.
01.02.2024	710.1	Crossing point	Change of the graphic; Change of line width: 0.35 --> 0.5 mm; Change of symbol size: 3.0 --> 4.5 mm.
01.02.2024	715	Continuing point after map exchange	New symbol.
01.02.2024	105.2 513.2	Precise definition of symbols	New symbols.

