

JIS

JAPANESE INDUSTRIAL STANDARD

Graphical symbols for mines

JIS M 0101-1978
(Reaffirmed:1990)

Translation without guarantee
In the event of any doubt arising, the original
standard in Japanese is to be evidence

Translated
by
Japanese Standards Association

This English translation is prepared at the expense of Japan
External Trade Organization (JETRO)

1. Scope

This Japanese Industrial Standard specifies symbols to be used in the drawings of the underground, surface, mining place, offshore, etc. of mines (including all of the mines of metal, non-metal, coal, petroleum, etc.).

2. Symbols

The symbols shall be in accordance with Attached Table.

Furthermore, for the purpose of arrangement, these shall be classified as given in Table 1.

Table 1. Classification of symbols

Classified symbol	Classification	Remarks
A	General	
B	Geology and mineral deposit	
C	Prospecting and mining	
D	Safety facilities	Except those which are included in E.
E	Machines, tools and equipments	Those which are operated in underground and surface.
F	Electrical facilities	Except those which are included in E.
G	General facilities	Except those which are included in E, F.
Z	Miscellaneous	Those which do not belong to those given above.

3. Sizes for symbols and letters

The sizes for symbols and letters shall be entered adjusting themselves to a drawing, and the letters shall be written clearly and be entered at a legible position of the drawing.

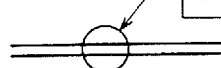
4. Symbols for special applications

As regards the symbols for special applications in this Standard, the methods of application shall be as given in the following:

(1) The order of descriptions for A 1 to A 5 shall be as follows:

Furthermore, in the case of this order of description, the units may be omitted.

Example:



Quantity of airflow m ³ /min	(Velocity of airflow m/min)
Gas content %	(Kind of gas)
Temperature °C	(Humidity %)

Applicable Standards:

JIS P 0138-Trimmed Sizes of Paper

JIS Z 8302-General Rules for Engineering Drawing Practice

- (2) As regards A 6 and A 7, in tunnels which have been modified into T-shape, the following applications may also be used.

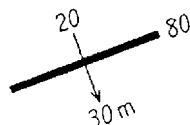
Examples:



- (3) Methods of application to symbols relating to geology of B 1 to B 80.

- (a) Geological columnar sections These shall be represented by using the symbols of B 1 to B 61.
- (b) Faults and strikes The symbols B 64 to B 73 relating to faults and strikes shall be used in several combinations. For example, the certain thrust fault of N 80 deg. E in strike, 20 deg. N in dip, 30 m in southward thrust shall be represented as follows:

Example:

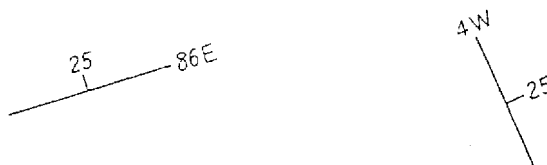


For the strike-slip angle, take N as zero, count in the left or right by 90 deg. system, and fill this numeral at the end of extended line near N.

Furthermore, in the case where it is within 5 deg. from the east-west line or south-north line, fill it generally on the extended line near the end of its base line.

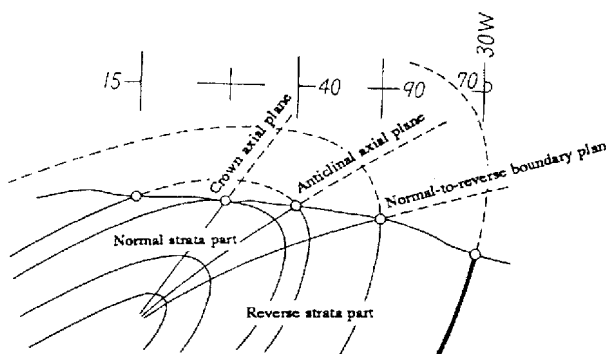
- (i) When the strike extends nearly in the east to west (ii) When the strike extends nearly in the south to north

Examples:



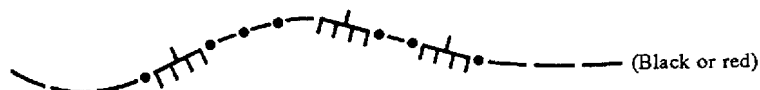
- (c) Overthrust strata For example, overthrust strata of N 30° W in strike and 70° in dip shall be represented as follows:

Example:



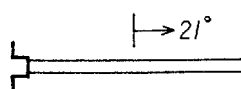
- (d) **Outcrops** B 75 and B 76 shall be used for metal deposits and nonmetal deposits (deposits other than coal and petroleum), B 77 to B 80 shall be used for coal deposits, and these may also be used for metal deposits and nonmetal deposits. These symbols shall be used being combined as follows:

Example:



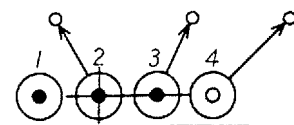
- (4) When an angle of inclination is to be entered in an inclined shaft, it shall be entered as follows:

Example:



- (5) Where the mutual intervals between oil wells and gas wells are within 10 m, it becomes difficult to discriminate as the symbols of a large number of wells are duplicated, so that these shall be represented as follows, using the symbols of C 19 to C 27.

Example:



Well symbols shall be stated from the left to the right according to the order of excavation from the first well. Names of well or numbers shall be entered above the well symbols, and a line shall be drawn below these.

- (6) Where no space is left to state, since two sets or more of equipment are installed at one place, numerals indicating number of sets shall be written below the right of the symbol.

Examples:

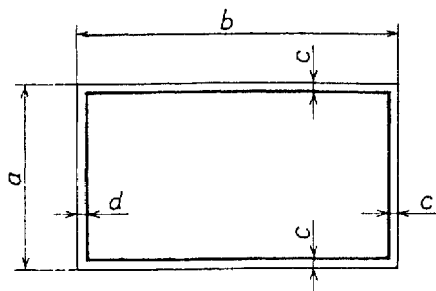


Informative reference

1. Sizes for drawings

In every respect, it is convenient to use the standards of Table 2 specified in JIS P 0138 and JIS Z 8302. a and b are the dimensions of drawing and c is the dimension when the drawing is to be outlined. Where the drawing is to be filed, d is taken on the side to be filed when it is to be outlined, and the filing allowance of 25 mm or over is to be left when it is not outlined.

Table 2. Sizes for drawings



Designation of size		A 0	A 1	A 2	A 3	A 4	A 5	A 6
$a \times b$		841 × 1189	594 × 841	420 × 594	297 × 420	210 × 297	148 × 210	105 × 148
c		10	10	10	5	5	5	5
d	When no filing is made	10	10	10	5	5	5	5
	When filing is made	25	25	25	25	25	25	25

In addition, where the drawing is to be folded, the folded size is to be so made to Row B number 5 (182 × 257) usually.

2. Scales for drawings

According to circumstances, usually a scale is defined among the following:

1/1000, 1/2000, 1/3000, 1/4000, 1/5000, 1/6000, 1/8000, 1/10000, 1/20000, 1/25000 and 1/50000

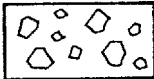
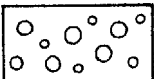
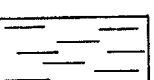
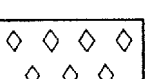
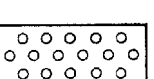
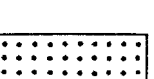
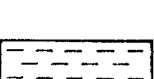
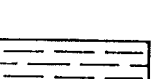
Attached Table

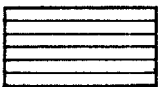
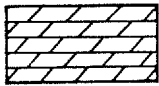
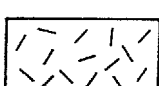
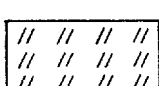
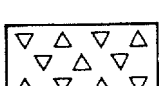
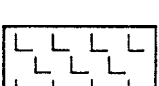
1. For the purpose of making the positions to be attached with symbols intelligible, there are some which have been appended with the symbol of tunnel or the like.

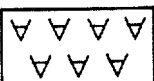
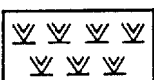
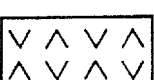
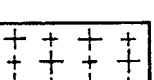
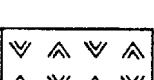
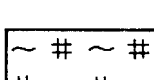
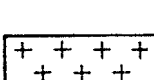
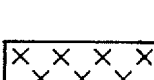
A General

Symbol No.	Title	Symbol	Colour	Remarks
A 1	Quantity of airflow	Example: $300 \text{ m}^3/\text{min}$	Black	Attach a circular mark on a measuring place, and enter this at its side. See 4. (1) of the text of this Standard.
A 2	Velocity of airflow	Example: $30 \text{ m}/\text{min}$	Black	Attach a circular mark on a measuring place, and enter this at its side. See 4. (1) of the text of this Standard.
A 3	Gas content	Example: 0.2%	Red or black	Attach a circular mark on a measuring place, enter this at its side, and also enter the type of gas. However, where this is stated separately, mark it in red. See 4. (1) of the text of this Standard.
A 4	Temperature	Example: 20°C	Black	Attach a circular mark on a measuring place, and enter this at its side. See 4. (1) of the text of this Standard.
A 5	Humidity	Example: 80%	Black	Attach a circular mark on a measuring place, and enter this at its side. See 4. (1) of the text of this Standard.
A 6	Direction of intake air		Blue	See 4. (2) of the text of this Standard.
A 7	Direction of exhaust air		Red	See 4. (2) of the text of this Standard.

B Geology and mineral deposit

Symbol No.	Title	Symbol	Colour	Remarks
B 1	Debris		Black	Arrange polygons of various sizes irregularly.
B 2	Pebble		Black	Arrange circles of various sizes irregularly.
B 3	Sand		Black	Discriminate particle sizes by the sizes of dot, and arrange the dots irregularly.
B 4	Silt		Black	Arrange short horizontal lines irregularly.
B 5	Clay		Black	Arrange the horizontal lines, 2 to 3 times the length of silt, irregularly.
B 6	Breccia		Black	Arrange vertical rhombi in zigzag.
B 7	Conglomerate		Black	Discriminate particle size by the size of circle and arrange circles in zigzag.
B 8	Sandstone		Black	Discriminate particle size by the size of dot, and arrange dots in longitudinal and lateral rows.
B 9	Siltrock		Black	Arrange short horizontal lines in zigzag.
B 10	Mudrock		Black	Arrange the horizontal lines, 2 to 3 times the length of siltrock, in zigzag.

Symbol No.	Title	Symbol	Colour	Remarks
B 11	Shale		Black	
B 12	Slate		Black	Bold lines and thin lines alternately.
B 13	Limestone		Black	
B 14	Dolomite		Black	
B 15	Siliceous rock		Black	Apply also to chert.
B 16	Volcanic ash		Black	Arrange the symbols of "/" irregularly.
B 17	Tuff		Black	Apply also to pumiceous tuff.
B 18	"YŌKETSU" tuff		Black	
B 19	Volcanic breccia and Tuffaceous breccia		Black	Apply also to agglomerate.
B 20	Liparite and Quarz-andesite		Black	

Symbol No.	Title	Symbol	Colour	Remarks
B 21	Andesite		Black	
B 22	Basalt		Black	Apply also to coarse grain basalt (dolerite).
B 23	Trachyte		Black	Apply also to alkaline rocks.
B 24	Pyrophyllite		Black	
B 25	Porphyrite		Black	
B 26	Quartz-porphyry		Black	Apply also to porphyries.
B 27	Diabase		Black	
B 28	Serpentine		Black	
B 29	Granite and Granodiorite		Black	
B 30	Diorite		Black	