INTERNATIONAL STANDARD

ISO 710-5

Second edition
1989-07-01

Graphical symbols for use on detailed maps, plans and geological cross-sections —

Part 5 :
Representation of minerals

Symboles graphiques à utiliser sur les cartes, les plans et les coupes géologiques détaillés —

Partie 5 : Représentation des minéraux

Reference number
ISO 710-5 : 1989 (E)

Foreword

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

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 710-5 was prepared by Technical Committee ISO/TC 82, *Mining*.

This second edition cancels and replaces the first edition (ISO 710-5 : 1982), table 1 of which has been technically revised : symbol 16 has been deleted and symbols 17 and 18 have been replaced.

ISO 710 consists of the following parts, under the general title *Graphical symbols for use on detailed maps, plans and geological cross-sections* :

Part 1 : General rules of representation

Part 2 : Representation of sedimentary rocks

Part 3 : Representation of magmatic rocks

Part 4 : Representation of metamorphic rocks

Part 5 : Representation of minerals

Part 6 : Representation of contact rocks and rocks which have undergone metasomatic, pneumatolytic or hydrothermal transformation or transformation by weathering

Part 7 : Tectonic symbols

Graphical symbols for use on detailed maps, plans and geological cross-sections —

Partie 5 :
Representation of minerals

1 Scope

This part of ISO 710 provides a unified series of symbols and abbreviations for the representation of certain minerals often found in rocks, with a view to facilitating the characterization of certain rocks on detailed maps, plans and geological cross-sections.

In general, there are two ways of representing these minerals, namely

— by the addition of another symbol, characterizing the mineral, to the elementary symbol for the rock in question;

— by the addition of letters, designating the mineral, to the symbol for the rock.

2 Representation by symbols (see table 1)

In view of the great variety of minerals which exist, it is impossible to design symbols for them all and therefore specific symbols can be assigned only to a selection of minerals. To emphasise the incomplete nature of table 1, the minerals have been listed in random order.

As far as possible, the shape of each symbol represents the crystal form of the mineral in question. If it is necessary to develop symbols for further minerals, this shall be done in the same way.

The symbols for minerals are added to the elementary symbols for the rock as specified in the relevant part of ISO 710; by varying the number of added elements, the frequency of occurrence of the represented mineral can be indicated.

3 Designation by Latin letters (see table 2)

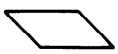
A greater number of minerals have been designated by letters of the Latin alphabet. The result of this study is shown in the list in table 2 which gives the abbreviations in alphabetical order, followed by the names of the corresponding minerals.

As far as possible, abbreviations consisting of only one letter have been avoided. In general, lower case letters shall be used for minerals; however, for chemical elements the first letter shall be a capital. The same rules shall be used concerning abbreviations for other minerals.

In those cases where letters are also used for the designation of other rock characteristics, the abbreviations for minerals shall be marked in a special way (for example by choosing a different type of writing or by framing the abbreviation). The marking shall be defined in a key.

If the occurrence of several minerals in the same rock is indicated by letters, the abbreviations shall be listed in the order of importance of the minerals. The most abundant mineral shall be placed first.

Table 1 — Symbols

No.	Mineral	Symbol
1	Muscovite	
2	Biotite	
3	Chlorite	
4	Olivine	
5	Hypersthene	
6	Pyroxene	
7	Amphibole	
8	Tourmaline	
9	Garnet	
10	Andalusite	
11	Staurolite	

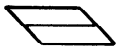
No.	Mineral	Symbol
12	Sillimanite	
13	Kyanite	
14	Cordierite	
15	Epidote	
16	Potash feldspar	
17	Plagioclase	
18	Magnetite	
19	Graphite	
20	Quartz	
21	Calcite	

Table 2 — Abbreviations

No.	Abbreviation	Name	No.	Abbreviation	Name	No.	Abbreviation	Name
1	ab	Albite	42	dt	Dickite	83	pg	Plagioclase
2	ad	Andalusite	43	ep	Epidote	84	pl	Phlogopite
3	ae	Aegirine	44	fl	Fluorite	85	pn	Pyrrhotine
4	Ag	Native silver	45	fs	Feldspar	86	po	Pyrope
5	ah	Anhydrite	46	gf	Graphite	87	Pt	Native platinum
6	ak	Actinolite	47	gk	Glauconite	88	pw	Perovskite
7	al	Almandine	48	gn	Galena	89	px	Pyroxene
8	am	Amphibole	49	gr	Garnet	90	py	Pyrite
9	an	Anorthite	50	gy	Gypsum	91	pz	Pyrolusite
10	ap	Apatite	51	hb	Hornblende	92	qz	Quartz
11	ar	Arsenopyrite	52	hm	Hematite	93	ro	Rhodochrosite
12	as	Asbestos	53	hy	Hypersthene	94	rt	Rutile
13	at	Alunite	54	il	Ilmenite	95	S	Sulfur
14	Au	Native gold	55	it	Illite	96	sa	Sphalerite
15	av	Augite	56	jr	Jarosite	97	sb	Stibnite
16	ax	Axinite	57	kf	Potash feldspar	98	sc	Sericite
17	ay	Anthophyllite	58	kl	Kaolinite	99	sd	Siderite
18	ba	Barite	59	ko	Corundum	100	se	Serpentine
19	be	Beryl	60	lc	Leucite	101	sh	Scheelite
20	bi	Biotite	61	le	Lepidolite	102	sk	Scapolite
21	bs	Bismuthinite	62	lm	Limonite	103	sl	Sillimanite
22	ca	Calcite	63	lt	Leptochlorite	104	sm	Spodumene
23	cb	Cobaltine	64	mg	Magnesite	105	sn	Spessartite
24	cc	Cancrinite	65	mi	Mica	106	so	Sodalite
25	ce	Cerussite	66	mk	Microcline	107	sp	Spinel
26	ch	Chlorite	67	ml	Melanite	108	sr	Scorodite
27	ci	Cinnabar	68	mm	Montmorillonite	109	st	Staurolite
28	cl	Columbite	69	mo	Molybdenite	110	sy	Sylvine
29	cn	Chalcedony	70	ms	Marcasite	111	ti	Titanite, sphene
30	co	Cordierite	71	mt	Magnetite	112	tk	Talc
31	cp	Chalcopyrite	72	mu	Muscovite	113	tm	Titano-magnetite
32	cr	Chromite	73	mz	Monazite	114	tr	Tremolite
33	cs	Cassiterite	74	na	Halite, Rock salt	115	tu	Tourmaline
34	ct	Carnallite	75	ne	Nepheline	116	tz	Topaz
35	cy	Kyanite	76	nk	Nacrite	117	va	Vanadinite
36	da	Datolite	77	nt	Nontronite	118	vs	Vesuvianite
37	di	Diopside	78	or	Orthoclase	119	wf	Wolframite
38	dl	Diallage	79	ot	Orthite	120	wl	Wollastonite
39	dm	Diamond	80	ov	Olivine	121	ze	Zeolite
40	dn	Stilbite (desmine)	81	oz	Ozokerite	122	zr	Zircon
41	do	Dolomite	82	pc	Pyrochlore	123	zw	Zinnwaldite

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UDC 622.1 : 528 : 003.62

Descriptors : geology, maps, drawings, transverse sections, schematic presentation, symbols, graphic symbols, minerals and ores.

Price based on 3 pages