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Graphical symbols for use on detailed maps, plans and geological cross-sections — Part III : Representation of magmatic rocks

*Symboles graphiques à utiliser sur les cartes, les plans et les coupes géologiques détaillés —
Partie III : Représentation des roches magmatiques*

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ISO 710/III-1974 (E)

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up 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.

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.

Prior to 1972, the results of the work of the Technical Committees were published as ISO Recommendations; these documents are now in the process of being transformed into International Standards. As part of this process, Technical Committee ISO/TC 82 has reviewed ISO Recommendation R 710/III and found it suitable for transformation. International Standard ISO 710/III therefore replaces ISO Recommendation R 710/III-1970.

ISO Recommendation R 710/III was approved by the Member Bodies of the following countries :

Australia	Greece	Spain
Belgium	India	Sweden
Czechoslovakia	Iran	Turkey
Egypt, Arab Rep. of	Israel	United Kingdom
France	Italy	U.S.S.R.
Germany	Netherlands	

The Member Bodies of the following countries expressed disapproval of the Recommendation on technical grounds :

Chile	New Zealand*
Hungary	South Africa, Rep. of*
Ireland*	

The Member Body of the following country disapproved the transformation of ISO/R 710/III into an International Standard :

Poland

Other documents in this series on graphical symbols for use on detailed maps, plans and geological cross-sections include :

Part I : *General rules of representation.*

Part II : *Representation of sedimentary rocks.*

Part IV : *Representation of metamorphic rocks.* (In preparation.)

Part V : *Representation of minerals.* (In preparation.)

* Subsequently, these Member Bodies approved the Recommendation.

Graphical symbols for use on detailed maps, plans and geological cross-sections — Part III : Representation of magmatic rocks

1 SCOPE AND FIELD OF APPLICATION

This International Standard provides a series of symbols and ornaments for the representation of magmatic rocks on detailed maps, especially large-scale maps, plans and geological cross-sections.

The symbols may be divided in two groups :

- 1) main types;
- 2) varia.

They are reproduced in two tables which, being derived from a logical system, may be completed easily in case of need.

2 MAIN TYPES

2.1 Principles of representation (see table 1)

The table of the main types comprises plutonic and volcanic rocks.

2.1.1 In the first column are given the plutonic rocks subdivided into eight groups, essentially according to their silica content. For each of the groups 1 to 6 two basic symbols are indicated beside column 1, under the letters *a* and *b*, while only one basic symbol is assigned to each of groups 7 and 8. Two basic symbols have been kept for the first six groups to allow, where it seems desirable, on the same sheet, the representation of rocks of similar petrographic composition but of different age, for example.

When a more detailed subdivision of the main types is required, the symbols assigned to various groups are slightly modified (see column 2 for groups 3, 4, 6 and 7). If the differentiation is to be taken still further, suitable additional symbols are to be used.

2.1.2 The dyke rocks which correspond to plutonic rocks are to be represented by the same symbols as the plutonic rocks. Special symbols for those dyke rocks are unnecessary; it is sufficient to put the respective plutonic rock symbols between the two lines which delimit the dyke. Sill rocks are represented in the same way.

2.1.3 Column 3 is reserved for volcanic rocks. The subdivision corresponds to that of the plutonic rocks.

2.2 Individual symbols

A distinction in the grain size of rocks can be shown by the smaller or greater size of the individual symbols, for example, the difference between coarse-grained syenite and fine-grained syenite can be indicated by the difference in size of the same symbol (see figures 1 and 2).

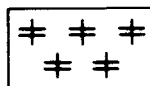


FIGURE 1 — Coarse-grained syenite



FIGURE 2 — Fine-grained syenite

To indicate porphyritic texture the ordinary symbol is replaced at intervals by a larger symbol (see figure 3).

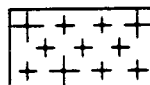


FIGURE 3 — Porphyritic granite or granite porphyry

2.2.1 Plutonic and volcanic rocks

The symbols representing plutonic rocks are derived from a cross (+) or a letter "Y" (see figure 4).

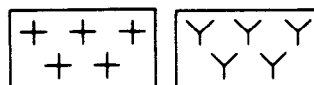


FIGURE 4 — Plutonic rocks

The symbols representing volcanic rocks are derived from a right angle placed on its point (∨) (see figure 5).

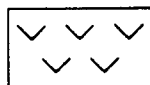


FIGURE 5 — Volcanic rocks

These basic symbols are varied in the same way according to the silica content of the rocks (see table 1).