

INTERNATIONAL STANDARD

**ISO
6862**

First edition
1996-10-01

Information and documentation — Mathematical coded character set for bibliographic information interchange

*Information et documentation — Jeu de caractères codés mathématiques
pour les échanges d'informations bibliographiques*



Reference number
ISO 6862:1996(E)
Documents
Document Sharing Hub

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 voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 6862 was prepared by Technical Committee ISO/TC 46, *Information and documentation*, Subcommittee SC 4, *Computer applications in information and documentation*.

Annex A of this International Standard is for information only.

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Printed in Switzerland

Information and documentation — Mathematical coded character set for bibliographic information interchange

1 Scope

1.1 This International Standard specifies a set of 188 graphic characters with their coded representations. It consists of code tables and a legend showing each graphic together with its name or meaning. Explanatory notes are also included.

1.2 These characters, together with characters in the international reference version of ISO 646 (ISO escape sequence ESC 2/8 4/0), in the extension of the Latin alphabet coded character set for bibliographic information interchange [ISO 5426¹⁾] and in the Greek alphabet coded character set for bibliographic information interchange [ISO 5428²⁾] constitute a character set for the international exchange of bibliographic records including their annotations, incorporating symbols mainly from the following disciplines:

- Algebra
- Arithmetic
- Calculus
- Cybernetics
- Geometry
- Hyperbolic functions
- Logic
- Mechanics
- Probability studies
- Set theory
- Statistics
- Topology
- Trigonometry
- Vectors

1.3 This International Standard is concerned with the transmission of mathematical characters in bibliographic records, not with their use in source documents: the descriptions and comments in the legend are therefore neither prescriptive nor exhaustive. This means that there is no restriction against the use of a particular symbol in interchange of information in the form in which it appears in the data to be transmitted, even if its name or meaning as given in this International Standard does not cover its use in that particular context.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO/IEC 2022:1994, *Information technology — Character code structure and extension techniques*.

ISO 2375:1985, *Data processing — Procedure for registration of escape sequences*.

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- 1) Escape sequences:
G0: ESC 2/8 5/0
G1: ESC 2/9 5/0
G2: ESC 2/10 5/0
G3: ESC 2/11 5/0
- 2) Escape sequences:
G0: ESC 2/8 5/3
G1: ESC 2/9 5/3
G2: ESC 2/10 5/3
G3: ESC 2/11 5/3

3 Implementation

3.1 The implementation of this coded character set in physical media and for transmission, taking into account the need for error checking, is the subject of other International Standards (see annex A).

3.2 The implementation of this International Standard is in accordance with the provisions of ISO 2022 and is identified by the escape sequences ESC (in accordance with ISO 2375).³⁾

3.3 The unassigned positions in the code tables are not to be utilized in the international exchange of bibliographic information.

3) The Registration Authority.

4 Code tables of mathematical coded characters

The mathematical character set is given in tables 1 and 2.

Table 1 — Basic set G0

					b ₇	0	0	0	0	1	1	1	1
					b ₆	0	0	1	1	0	0	1	1
					b ₅	0	1	0	1	0	1	0	1
						0	1	2	3	4	5	6	7
b ₄	b ₃	b ₂	b ₁										
0	0	0	0	0					×	÷	+	−	'
0	0	0	1	1				/	±	∓	⊂	⊃	"
0	0	1	0	2					~	≈	⊆	⊇	'''
0	0	1	1	3				·	≈	≅	∈	∋	∨
0	1	0	0	4				−	≡	≅	∪	∩	^
0	1	0	1	5				○	≤	≥	∀	∃	¬
0	1	1	0	6				⊙	≦	≧	⊆	⊇	h
0	1	1	1	7				⊙	≦	≧	↑	↓	⊥
1	0	0	0	8				↶	≪	≫	←	→	∫
1	0	0	1	9				·	∥	⊥	↶	↷	∫
1	0	1	0	10				..	⊥	∠	↔	↕	∫
1	0	1	1	11				←	Δ	∇	↔	↔	∂
1	1	0	0	12				^	°	‰	↦	↕	h
1	1	0	1	13				˘	<	>	↑	↓	ℵ
1	1	1	0	14				→	⌈	⌋	⇐	⇒	○
1	1	1	1	15				↶	Σ	Π	∞	√	

Table 2 — Extension of basic set G1

					b ₇	0	0	0	0	1	1	1	1
					b ₆	0	0	1	1	0	0	1	1
					b ₅	0	1	0	1	0	1	0	1
						0	1	2	3	4	5	6	7
b ₄	b ₃	b ₂	b ₁										
0	0	0	0	0					≠	≈	∥		≡
0	0	0	1	1				⊕	≡	::	/	\	÷
0	0	1	0	2				⊖	⌈	⌋	⊤	∖	∞
0	0	1	1	3				⊗	⊥	⊥	∨	∧	}
0	1	0	0	4				⊙	:	⇌	∪	∩	⊢
0	1	0	1	5				∴	⌈	⌋	⊂	⊃	⊢
0	1	1	0	6				∴	⌈	⌋	⊂	⊃	⊢
0	1	1	1	7				⊥	⊥	⊥	↖	↗	↘
1	0	0	0	8				⊥	⊥	⊥	↙	↘	↔
1	0	0	1	9				⋅	↗	↘	↑	↗	↔
1	0	1	0	10				⋅	↗	↘	↗	↘	↔
1	0	1	1	11				+	↗	↘	↗	↘	↔
1	1	0	0	12				+	+	≡	○	●	⋅
1	1	0	1	13				⌈	≡	≡	□	■	⊗
1	1	1	0	14				⌈	△	△	□	▭	ℝ
1	1	1	1	15				⌈	△	▽	◇	✱	