
**Technical drawings — General principles of
presentation —**

Part 24:

Lines on mechanical engineering drawings

Dessins techniques — Principes généraux de représentation —

Partie 24: Traits utilisés pour les dessins industriels



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) in all matters of electrotechnical standardization.

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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 128-24 was prepared by Technical Committee ISO/TC 10, *Technical drawings, product definition and related documentation*, Subcommittee SC 1, *Basic conventions*.

ISO 128 consists of the following parts, under the general title *Technical drawings — General principles of presentation*:

- Part 20: *Basic conventions for lines*
- Part 21: *Preparation of lines by CAD systems*
- Part 22: *Basic conventions and applications for leader lines and reference lines*
- Part 23: *Lines on construction drawings*
- Part 24: *Lines on mechanical engineering drawings*
- Part 25: *Lines on shipbuilding drawings*
- Part 30: *Basic conventions for views*
- Part 31: *Additional conventions for views*
- Part 40: *Basic conventions for cuts and sections*
- Part 41: *Cuts and sections for mechanical engineering drawings*
- Part 50: *Basic conventions for representing areas on cuts and sections*
- Part 60: *Additional conventions for cuts and sections*

Annex A of this part of ISO 128 is for information only.

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International Organization for Standardization
Case postale 56 • CH-1211 Genève 20 • Switzerland
Internet iso@iso.ch

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Technical drawings — General principles of presentation —

Part 24:

Lines on mechanical engineering drawings

1 Scope

This part of ISO 128 specifies general rules and basic conventions for the types of lines on mechanical engineering drawings.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 128. For dated references, subsequent amendments to, or revisions of, these publications do not apply. However, parties to agreements based on this part of ISO 128 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 128-20:1996, *Technical drawings — General principles of presentation — Part 20: Basic conventions for lines.*

ISO 128-22:1999, *Technical drawings — General principles of presentation — Part 22: Basic conventions and applications for leader lines and reference lines.*

ISO 128-30:—¹⁾, *Technical drawings — General principles of presentation — Part 30: Basic conventions for views.*

ISO 128-40:—¹⁾, *Technical drawings — General principles of presentation — Part 40: Basic conventions for cuts and sections.*

ISO 128-50:—¹⁾, *Technical drawings — General principles of presentation — Part 50: Basic conventions for representing areas on cuts and sections.*

ISO 129:1985, *Technical drawings — Dimensioning — General principles, definitions, methods of execution and special indications.*

ISO 2203:1973, *Technical drawings — Conventional representation of gears.*

ISO 3040:1990, *Technical drawings — Dimensioning and tolerancing — Cones.*

ISO 5261:1995, *Technical drawings — Simplified representation of bars and profile sections.*

ISO 6410-1:1993, *Technical drawings — Screw threads and threaded parts — Part 1: General conventions.*

¹⁾ To be published.

ISO 6428:1982, *Technical drawings — Requirements for microcopying*.

ISO 10135:1994, *Technical drawings — Simplified representation of moulded, cast and forged parts*.

ISO 10578:1992, *Technical drawings — Tolerancing of orientation and location — Projected tolerance zone*.

3 General principles

The basic types of lines, their designations and dimensions as well as general rules for draughting of lines are specified in ISO 128-20.

Requirements for microcopying are specified in ISO 6428.

4 Types of lines and their application

The first part of the line number in Table 1 is the number of the basic type in accordance with ISO 128-20.

Table 1 — Types of lines and applications

No.	Line Description and representation	Application	Reference to ISO
01.1	Continuous narrow line 	.1 imaginary lines of intersection	—
		.2 dimension lines	129
		.3 extension lines	129
		.4 leader lines and reference lines	128-22
		.5 hatching	128-50
		.6 outlines of revolved sections	128-40
		.7 short centre lines	—
		.8 root of screw threads	6410-1
		.9 origin and terminations of dimension lines	129
		.10 diagonals for the indication of flat surfaces	—
		.11 bending lines on blanks and processed parts	—
		.12 framing of details	—
		.13 indication of repetitive details	—
		.14 interpretation lines of tapered features	3040
		.15 location of laminations	—
		.16 projection lines	—
		.17 grid lines	—
	Continuous narrow freehand line 	.18 preferably manually represented termination of partial or interrupted views, cuts and sections, if the limit is not a line of symmetry or a centre line ^a	—