

INTERNATIONAL STANDARD

ISO
12478-1

ANSI Internat Doc Sec

First edition
1997-07-15

Cranes — Maintenance manual —

Part 1: General

*Appareils de levage à charge suspendue — Manuel de maintenance —
Partie 1: Généralités*



Reference number
Documents
ISO 12478-1:1997(E)
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 12478-1 was prepared by Technical Committee ISO/TC 96, *Cranes*, Subcommittee SC 5, *Use, operation and maintenance*.

ISO 12478 consists of the following parts under the general title *Cranes — Maintenance manual*:

- *Part 1: General*
- *Part 2: Mobile cranes*
- *Part 3: Tower cranes*
- *Part 4: Jib cranes*
- *Part 5: Overhead travelling and portal bridge cranes*

Annexes A, B and C of this part of ISO 12478 are for information only.

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Printed in Switzerland

Cranes — Maintenance manual —

Part 1: General

1 Scope

This part of ISO 12478 establishes guidelines on the general requirements necessary for the preparation and presentation of maintenance manuals for cranes.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 12478. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 12478 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 31-0:1992, *Quantities and units — Part 0: General principles*.

ISO 4306-1:1990, *Cranes — Vocabulary — Part 1: General*.

ISO 4306-2:1985, *Lifting appliances — Vocabulary — Part 2: Mobile cranes*.

ISO 4306-3:1991, *Cranes — Vocabulary — Part 3: Tower cranes*.

ISO 9927-1:1994, *Cranes — Inspections — Part 1: General*.

3 Presentation of the manual

3.1 General

A maintenance manual shall be provided by the crane manufacturer. This manual

- a) should be simple to understand and have adequate explanatory notes;
- b) shall incorporate the use of internationally recognized symbols, if established;
- c) should be easy to use, compact and made of durable hardwearing material;
- d) shall be compiled in the language normally used by the manufacturer, unless a specific language has been agreed on between the parties to the contract.

The manual is a working tool which should be both convenient and complete. The text should be simple and adapted to the individuals who will use it, with all information being explicit and comprehensive.

Illustrations, diagrams, graphs and tables should be used in preference to written text to avoid the risk of misunderstanding. They should be clear and simple, and be placed adjacent to any corresponding text.

The terms (see ISO 4306), definitions, units (see ISO 31) and symbols shall comply with the relevant International Standards. When the units specified differ from those in common use, this should be noted in the manual in brackets or by means of a footnote.

Only those items relative to the particular crane and its application shall be included.

3.2 Preliminary information

The following information shall be given on the front or back cover, or on the first pages of the manual:

- a) title of the manual;
- b) reference number of the manual (if any);
- c) identification (designation, type, series, model, etc.) of the crane with which the manual is intended to be used;
- d) serial number or numbers of crane or, where appropriate, range of serial numbers covered;
- e) name and full address of the crane manufacturer and/or his agent;
- f) table of contents and/or index;
- g) basic characteristics of the crane.

3.3 Number of volumes

The maintenance manual, with the other manuals particular to the crane in question, (for example driver's manual, user's manual, etc.) may be published in one or more volumes. The choice of the volume and grouping of the parts should be suitable for the type of product, its normal application and personnel requirements. Where appropriate, cross-reference to other volumes should be made so that the same information is not repeated unnecessarily.

4 Maintenance

4.1 General

According to the level of maintenance dealt with in the manual, it may be necessary for a clear understanding of maintenance operations that such points as:

- description of the working principles of units
- working sequences of units
- test values to measure

should be explained and that necessary schematics, charts (e.g. switching sequences) and check lists should be included.

4.2 Preventive maintenance

The maintenance operations and their frequency, together with an indication of the labour requirement, shall be grouped in a table, for which examples of typical column headings are shown in table 1. The frequencies shall be established so that several operations can be performed at the same time, to facilitate maximum utilization of the crane and manpower.

Table 1

Operation and location	Part name/ nomenclature	Estimated hours labour	Interval 1	Interval 2	(Etc.)