
**Petroleum and liquid petroleum products —
Equipment for measurement of liquid levels
in storage tanks — Manual methods**

*Pétrole et produits pétroliers liquides — Appareils de mesure du niveau
des liquides dans les réservoirs — Méthodes manuelles*



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 4512 was prepared by Technical Committee ISO/TC 28, *Petroleum products and lubricants*, Subcommittee SC 3, *Static petroleum measurement*.

Introduction

This International Standard describes the equipment required to measure the level of petroleum and petroleum products contained in a tank or container. Calculation of the quantity of petroleum and petroleum products contained in a tank or container also requires that the temperature of the liquid and its density are determined. The equipment required and the methods of determination of temperature and density are described in other International Standards to which reference should be made.

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Petroleum and liquid petroleum products — Equipment for measurement of liquid levels in storage tanks — Manual methods

1 Scope

This International Standard specifies the requirements for the equipment required to measure manually the liquid level or the corresponding volume of petroleum and petroleum products stored in tanks and containers.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard 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 1998 (all parts), *Petroleum industry — Terminology*.

IEC 60079-11:1991, *Electrical apparatus for explosive gas atmospheres — Part 11: Intrinsic safety "i"*.

3 Terms and definitions

For the purposes of this International Standard, the terms and definitions given in ISO 1998 and the following apply.

3.1

calibration table

tank table

tank capacity table

table showing the capacities of, or volumes in, a tank corresponding to various liquid levels measured from the specified dipping datum-plate and/or gauging reference point

3.2

dip

innage

depth of liquid in a tank above the dipping datum-plate

3.3

dip-rod

dip-stick

rigid length of wood or other material, graduated in units of volume or length, for measuring by dip the quantity of liquid in small tanks which have been calibrated in terms of dip

3.4

dip-tape

graduated steel tape used for measuring the level of oil or water in a tank, either directly by dipping or indirectly by ullaging