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**Petroleum and liquid petroleum products —  
Calibration of vertical cylindrical tanks —  
Part 5:  
External electro-optical distance-ranging  
method**

*Pétrole et produits pétroliers liquides — Jaugeage des réservoirs  
cylindriques verticaux —*

*Partie 5: Méthode par mesure électro-optique externe de la distance*



Reference number  
ISO 7507-5:2000(E)

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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 part of ISO 7507 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 7507-5 was prepared by Technical Committee ISO/TC 28, *Petroleum products and lubricants*, Subcommittee SC 3, *Static petroleum measurement*.

ISO 7507 consists of the following parts, under the general title *Petroleum and liquid petroleum products — Calibration of vertical cylindrical tanks*:

- *Part 1: Strapping method*
- *Part 2: Optical-reference-line method*
- *Part 3: Optical-triangulation method*
- *Part 4: Internal electro-optical distance-ranging method*
- *Part 5: External electro-optical distance-ranging method*
- *Part 6: Recommendations for monitoring, checking and verification of tank calibration and capacity table*

Annex A of this part of ISO 7507 is for information only.

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## Introduction

This International Standard forms part of a series on tank calibration methods including the following:

- a) ISO 4269-1, *Petroleum and liquid petroleum products — Tank calibration by liquid measurement — Part 1: Incremental method using volumetric meters.*
- b) ISO 7507-1, *Petroleum and liquid petroleum products — Calibration of vertical cylindrical tanks — Part 1: Strapping method.*
- c) ISO 7507-2, *Petroleum and liquid petroleum products — Calibration of vertical cylindrical tanks — Part 2: Optical-reference-line method.*
- d) ISO 7507-3, *Petroleum and liquid petroleum products — Calibration of vertical cylindrical tanks — Part 3: Optical-triangulation method.*
- e) ISO 7507-4, *Petroleum and liquid petroleum products — Calibration of vertical cylindrical tanks — Part 4: Internal electro-optical distance-ranging method.*
- f) ISO 8311, *Refrigerated light hydrocarbon fluids — Calibration of membrane tanks and independent prismatic tanks in ships — Physical measurement.*
- g) ISO 9091-1, *Refrigerated light-hydrocarbon fluids — Calibration of spherical tanks in ships — Part 1: Stereo-photogrammetry.*
- h) ISO 9091-2, *Refrigerated light hydrocarbon fluids — Calibration of spherical tanks in ships — Part 2: Triangulation measurement.*

The method is an alternative to other calibration methods such as the strapping method (ISO 7507-1), the optical-reference-line method (ISO 7507-2), the optical-triangulation method (ISO 7507-3), and the internal electro-optical distance-ranging method (ISO 7507-4).