

---

---

**Ships and marine technology —  
Terms, abbreviations, graphical  
symbols and concepts on navigation**

*Navires et technologie maritime — Termes, abréviations, symboles  
graphiques et concepts relatifs à la navigation*

**iTeh Standards**  
**(<https://standards.iteh.ai>)**  
**Document Preview**

[ISO 19018:2020](https://standards.iteh.ai/catalog/standards/iso/752a24d3-7514-4947-9598-ba8030ae5d7d/iso-19018-2020)

<https://standards.iteh.ai/catalog/standards/iso/752a24d3-7514-4947-9598-ba8030ae5d7d/iso-19018-2020>



**iTeh Standards**  
**(<https://standards.iteh.ai>)**  
**Document Preview**

ISO 19018:2020

<https://standards.iteh.ai/catalog/standards/iso/752a24d3-7514-4947-9598-ba8030ae5d7d/iso-19018-2020>



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2020

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

	Page
Foreword .....	iv
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Special units in maritime navigation</b> .....	<b>1</b>
<b>5 Reference directions</b> .....	<b>2</b>
5.1 North directions .....	2
5.2 Dead ahead direction .....	2
<b>6 Course, heading, track, speed</b> .....	<b>2</b>
6.1 Course, heading .....	2
6.2 Track .....	4
6.3 Speed .....	4
<b>7 Bearings</b> .....	<b>4</b>
<b>8 Corrections</b> .....	<b>5</b>
<b>9 Influence of wind and current</b> .....	<b>6</b>
9.1 Wind .....	6
9.2 Leeway and drift triangle .....	6
<b>10 Geographical coordinates, positions and lines, and graphical symbols</b> .....	<b>8</b>
10.1 Geographical coordinates .....	8
10.2 Positions and lines .....	9
10.3 Graphical symbols .....	10
<b>11 Waypoint navigation</b> .....	<b>10</b>
<b>12 Terms of time</b> .....	<b>11</b>
12.1 Universal terms of time .....	11
12.2 Terms concerning time for navigation use .....	12
<b>13 Astronomical navigation</b> .....	<b>13</b>
13.1 Celestial coordinates, points, lines and angles on the celestial sphere .....	13
13.2 Great and small circles .....	13
13.3 Altitudes and angular distances on the celestial sphere .....	14
13.4 Sight reduction .....	15
13.5 Symbols of celestial bodies and sextant altitudes .....	16
<b>14 Depth of water and tides</b> .....	<b>16</b>
<b>15 Terrestrial magnetism</b> .....	<b>18</b>
<b>16 Global Navigation Satellite System (GNSS)</b> .....	<b>19</b>
16.1 Dilution of precision .....	19
<b>Bibliography</b> .....	<b>20</b>

## 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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 6, *Navigation and ship operations*.

This second edition cancels and replaces the first edition (ISO 19018:2004), which has been technically revised.

The main changes compared to the previous edition are as follows:

- **Clause 2:** updated referenced documents: ISO 31 deleted (its current revision, ISO 80000-3:2019, does no longer mention the nautical mile, knot, degree and minute), and changed from IEC 60872 and IEC 60936 to related original IMO resolutions;
- added **Clause 3**, “Terms and definitions”, and subsequent clauses renumbered;
- items 4.1.1 to 4.1.3: referenced document changed from “ISO 31-1 and/or Chart INT 1” to “Chart INT” only, as applicable;
- items **6.1** and 6.1.1: abbreviation of “course” changed from “CSE” to “CRS”, and the second sentence of the explanation of **6.1** deleted (harmonized with that in radar navigation; IEC 62288 and/or IEC 62388);
- items 6.1.1 to 6.1.15 and 7.1 to 7.5: updated “Definition, remarks” based on IMO Resolution MSC. 192 (79) (harmonized with abbreviation and definition in IEC 62288 and/or IEC 62388);
- items 6.1.1, 6.1.2 and 6.1.4: added 6.1.1 “course”, 6.1.2 “heading” and 6.1.4 “course to steer” (harmonized with abbreviation and definition in IEC 62288 and/or IEC 62388);
- items 7.1 to 7.5: changed the “Definition, remarks”, based on IMO Resolution MSC, 192[79];
- deleted former Clause 15, “Radar navigation”, and former Clause 16, “LORAN-C”; and former Clause 17 renumbered as new **Clause 16**;