
**Ships and marine technology —
Manoeuvring of ships —**

**Part 6:
Model test specials**

*Navires et technologie maritime — Manoeuvres des navires —
Partie 6: Spécificités des essais sur modèle*



This document is a preview generated by EBS



COPYRIGHT PROTECTED DOCUMENT

© ISO 2013

All rights reserved. Unless otherwise specified, 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
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

	Page
Foreword.....	iv
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions.....	1
4 Test-related physical quantities.....	2
5 General test conditions.....	16
6 Test 6.1 — Planar motion test.....	16
6.1 General.....	16
6.2 Description.....	18
6.3 Analysis and presentation of results of a planar motion test.....	19
6.4 Designation of a planar motion test.....	29
7 Test 6.2 — Circular motion test.....	29
7.1 General.....	29
7.2 Description.....	30
7.3 Analysis and presentation of results of a circular motion test.....	30
7.4 Designation of a circular motion test.....	31
8 Test 6.3 — Oblique towing or flow test.....	32
8.1 General.....	32
8.2 Description.....	33
8.3 Analysis and presentation of results of an oblique towing or flow test.....	33
8.4 Designation of an oblique towing or flow test.....	34
9 Test 6.4 — Wind tunnel test.....	36
9.1 General.....	36
9.2 Description of the test.....	37
9.3 Analysis and presentation of test results.....	37
9.4 Designation of a wind tunnel test.....	37

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. 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. 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.

The committee responsible for this document is ISO/TC 8, *Ships and marine technology*, Subcommittee SC 6, *Navigation and ship operations*.

ISO 13643 consists of the following parts, under the general title *Ships and marine technology — Manoeuvring of ships*:

- *Part 1: General concepts, quantities and test conditions*
- *Part 2: Turning and yaw checking*
- *Part 3: Yaw stability and steering*
- *Part 4: Stopping, acceleration, traversing*
- *Part 5: Submarine specials*
- *Part 6: Model test specials*

Ships and marine technology — Manoeuvring of ships —

Part 6: Model test specials

1 Scope

This part of ISO 13643 defines symbols and terms and provides guidelines for the conduct of tests to determine the hydrodynamic forces and moments due to prescribed motions under a planar-motion, a circular-motion, or an oblique towing or flow system for models of surface ships and submarines. It also defines symbols and terms and provides guidelines for the conduct of tests in a wind tunnel. It is intended to be read in conjunction with ISO 13643-1.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 13643-1, *Ships and marine technology — Manoeuvring of ships — Part 1: General concepts, quantities and test conditions*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

planar motion test

manoeuvring test to determine the hydrodynamic forces and moments as functions of lateral velocity and acceleration as well as of angular velocity and acceleration about the z-axis or the y-axis, respectively

3.2

circular motion test

manoeuvring test to determine the hydrodynamic forces and moments as a function of the angular velocity for surface ships primarily about the z-axis, for submarines primarily about the z-axis as well as the y-axis

3.3

oblique towing or flow test

manoeuvring test to determine the forces and moments as a function of the drift angle and of the manoeuvring device angle and, in the case of submarines, the angle of attack and hydroplane deflections, in a towing tank, a circulating water tunnel, or a wind tunnel

3.4

wind tunnel test

test to determine the aerodynamic forces and moments acting upon the above-water portion of the ship as a function of the relative wind

Note 1 to entry: A wind tunnel may also be used for the underwater hull.