
**Shipbuilding — Ship screw propellers
— Manufacturing tolerances —**

**Part 1:
Propellers of diameter greater than
2,50 m**

*Construction navale — Hélices de navires — Tolérances de
fabrication —*

Partie 1: Hélice de diamètre supérieur à 2,50 m



This document is a preview generated by EBS



COPYRIGHT PROTECTED DOCUMENT

© ISO 2015, Published in Switzerland

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
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Field of application	1
4 Methods for measuring pitch	1
4.1.1 Use of marking gauges	1
4.1.2 Method with a graduated ring	1
4.1.3 Method using coordinate measuring machine	1
5 Methods for measuring the thickness of the section	2
6 Accuracy classes	3
7 Tolerances on the pitch	4
8 Tolerances on the extreme radius of the screw propeller	5
9 Tolerances on the thickness of the blade section	5
10 Checking and tolerances of the form of blade sections	5
11 Tolerances on the length of the blade sections	8
12 Tolerances on the location of blades, reference lines, and blade contours	8
12.1 Marking of lines of reference	8
12.2 Tolerances on the contour of the leading edge	9
12.3 Tolerances on the angular deviation between two consecutive blades	10
13 Tolerances on rake, axial position, and relative axial position of consecutive blades	10
14 Surface finish	11
15 Static balancing	11
16 Measuring equipment	12
Bibliography	13

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).

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).

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

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 8, *Ships and marine technology*, Subcommittee SC 3, *Piping and machinery*.

This second edition cancels and replaces the first edition (ISO 484-1:1981), which has been technically revised.

ISO 484 consists of the following parts, under the general title *Shipbuilding — Ship screw propellers — Manufacturing tolerances*:

- *Part 1: Propellers of diameter greater than 2,50 m*
- *Part 2: Propellers of diameter between 0,80 m and 2,50 m inclusive*

Introduction

The propeller manufacturer is at liberty to use any equipment and method that enables the tolerances to be verified to the required accuracy.

Shipbuilding — Ship screw propellers — Manufacturing tolerances —

Part 1: Propellers of diameter greater than 2,50 m

1 Scope

This part of ISO 484 defines manufacturing tolerances of ship screw propellers of a diameter greater than 2,50 m.

NOTE Some deviations for the tolerance are permitted in certain cases subject to the discretion of the customer or of the designer and the customer.

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 1302, *Geometrical Product Specifications (GPS) — Indication of surface texture in technical product documentation*

3 Field of application

This part of ISO 484 applies to monobloc, built-up, and controllable pitch propellers.

4 Methods for measuring pitch

4.1 The principle of one method of measurement consists in setting out along a helicoidal line of radius, r , a certain length, PQ, corresponding to the desired angle, α , and in measuring the difference, h , in the heights of the points P and Q with respect to a reference plane (see [Figure 1](#)).

The length PQ shall be set out using one of the methods described in [4.1.1](#), [4.1.2](#), or [4.1.3](#).

NOTE Other methods giving the required accuracy may be used if necessary.

4.1.1 Use of marking gauges

The length PQ shall be set out by means of marking gauges.

4.1.2 Method with a graduated ring

The length PQ shall be set out by means of angle, α , on a part of a graduated ring of suitable radius (see [Figure 1](#)).

4.1.3 Method using coordinate measuring machine

The height coordinates are taken at defined measuring points by means of coordinate measuring machine, and they are related to each other (determination of height differences needed for pitch