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**NATIONAL STANDARD OF THE
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**Ships and marine technology - Guidelines for the design and
manufacture of the hub cap with fins for a fixed-pitch marine
propeller**

船舶与海洋技术 船舶定距螺旋桨消涡鳍设计应用指南

(English Translation)

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Table of Contents

- Preface
- Introduction
- 1 Scope
- 2 Normative References
- 3 Terms and Definitions
- 4 Anti-vortex fin design application guidelines
 - 4.1 Evaluation of Hydrodynamic Performance and Energy Saving Effect
 - 4.2 Manufacturing
 - 4.3 Sealing performance
 - 4.4 Ease of Use
- 5 Anti-vortex fin hydrodynamic design process
 - 5.1 Applicability Analysis
 - 5.2 Main Geometric Parameters
 - 5.3 Pitch and camber distribution
 - 5.4 Open Water Test Verification
 - 5.5 Ship trials and verification
- 6 Strength check of anti-vortex fins
 - 6.1 Method for verifying the strength of anti-vortex fins
 - 6.2 Strength Verification Method for Propeller Fin Connecting Bolts
- References

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document adopts ISO 23453:2022 "Ships and Ocean Technology - Guidelines for the design and application of anti-vortex fins for fixed-pitch propellers of ships".

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed and is under the jurisdiction of the National Technical Committee on Standardization of Marine Ships (SAC/TC12).

Introduction

A vortex-reducing fin is an energy-saving device installed behind the propeller to replace the hub cap. It rotates with the propeller and reduces hub vortices.

Energy loss is used to increase the propulsion efficiency of ships. Anti-vortex fins have been widely used on various types of ships for energy saving and noise reduction. This document...

It is mainly used to guide the design, manufacturing and application of anti-vortex fins for fixed-pitch propellers.

Ship and Ocean Technology Design and Application Guidelines for Anti-vortex Fins of Fixed-Pitch Propellers for Ships

1 Scope

This document provides general guidelines for the design and application of hump-suppressing fin (HCWF) energy-saving devices for fixed-pitch propellers. This document is also suitable for...

For design and application of anti-vortex fin energy-saving devices for other types of propellers.

Based on the specific geometry and other technical parameters of the propeller, it is recommended to apply anti-vortex fins on merchant ships.

2 Normative references

There are no normative references in this document.

3 Terms and Definitions

The following terms and definitions apply to this document.

Anti-vortex fin hubcapwithfins; HCWF it replaces the propeller hub cap, which is installed behind the propeller and rotates with it.

Note: This device saves energy by reducing propeller hub vortex energy loss. Figure 1 shows a geometric schematic diagram of the propeller and the vortex-suppressing fins.

The axial distance between the propeller disk and the anti-vortex fin (3.1) disk.

Note: Figure 1 illustrates the axial spacing of the propeller fins.

The angle between the anti-vortex fin reference line and the propeller reference line in the direction of rotation.

Note: Figure 1 shows the circumferential phase angle.