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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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**Ships and marine technology - Testing specification for
stairsteps using electrical resistance trace heating**

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Table of Contents

- foreword
- 1 Scope
- 2 Normative references
- 3 Terms and Definitions
- 4 Structure and materials

foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules for Standardization Documents"

drafting:

This document is equivalent to ISO 21885:2019 "Requirements for Stepping Test of Electric Heating Ladders for Ships and Offshore Technology":

Please note that some contents of this document may refer to patents: The issuing agency of this document assumes no responsibility for identifying patents:

1 Scope

This document specifies the test method for the anti-freezing performance of steps of electric heated ladders installed in open spaces in low temperature environment, including Requirements for test facilities, test conditions, test samples, test procedures and test reports:

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text: Among them, dated references

For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to

this document:

IEC /IEEE60079-30-1 Explosive gases Part 30-1: General rules and test requirements for resistance wire heating (Explosiveat-

IEC /IEEE60079-30-2 Explosive gases Part 30-2: Application guidelines for resistance wire heating design, installation and maintenance (Ex-

3 Terms and Definitions

The following terms and definitions apply to this document:

3:1

heatedstairstep

Steps heated by electric heating device to avoid slipping and falling accidents:

3:2

Anti-icing anti-icing

Protect protected surfaces from freezing:

3:3

Ambient temperature ambient temperature

Atmospheric temperature in the test room:

4 Structure and materials

Ladder steps should be designed and manufactured according to the use of suitable materials, at least the following requirements should be met:

- a) The material selection and size of components (including fasteners, connectors, supports and bases) should ensure sufficient rigidity and stability;
- b) all parts shall be resistant to environmental damage (e:g: weather, chemicals, corrosive gases), for example, by using corrosion-resistant materials or having appropriate proper coating protection;
- c) Heated ladder steps installed in hazardous areas with electric heat tracing devices shall meet the requirements of IEC /IEEE60079-30-1 and IEC /IEEE60079-

30-2 requirements:

Note: The material can be selected according to the statutory requirements of the local competent authority or competent authority and/or the requirements of the International Association of Classification Societies (IACS):