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

GB 31117-2014

Safety specification for marine auxiliary boiler

船用辅锅炉安全技术要求

(English Translation)

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Foreword

All the technical contents of this standard is mandatory.

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

The standard proposed by China State Shipbuilding Corporation.

This standard by the National Marine Machinery Standardization Technical Committee (SAC/TC137) centralized.

This standard was drafted. Qingdao Marine Boiler Works Limited, China Technology and Economy Research Institute of Shipbuilding Industry, China Classification Society Qingdao Branch, ocean water pump factory in Yancheng City in Jiangsu, Qingdao Kay boilers Equipment Co.

1 Scope

This standard specifies the marine auxiliary boiler (hereinafter referred to as "boiler") state of the art security requirements, security management requirements and technical safety inspection Claim.

This standard applies to the media as water and saturated steam boiler.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 11037 marine boiler and pressure vessel strength and tightness test methods GB/T 11038 marine auxiliary boiler and pressure vessel pressure parts for welding GB/T 14649 marine auxiliary boiler performance test method GB/T 14650 General technical conditions for marine auxiliary boiler GB/T 24947 marine auxiliary boiler water quality requirements CB3111 marine auxiliary boiler inching valve CB/T 3161 marine auxiliary boiler control box technical conditions CB/T 3347 marine auxiliary boiler paint, insulation, packaging and technical conditions CB/T 3348 Marine shell type auxiliary boiler assembly technical conditions CB/T 3596 marine auxiliary boiler Membrane Water CB/T 3597 marine auxiliary boiler header CB/T 3752 Marine mechanical pressure burner CB/T 3920 marine auxiliary boiler pipe thread CB/T 3921 marine auxiliary boiler Manhole means CB/T 3922 marine auxiliary boiler pressure parts fabrication main technical conditions CB/T 3923 marine auxiliary boiler hand hole means CB/T 3924 marine boiler the raw material inspection CB/T 3967 marine steam atomizing burner CB/T 4105 marine auxiliary boiler pin tube CB/T 4222 Marine rotary cup burner

3.1 Boiler design

3.1.1

boiler designed to meet the classification rules and GB/T 14650 requirements.

3.1.2

Calculation of the strength of the boiler should be carried out to Classification requirements specification.

3.1.3

ships steam boiler water level should meet the following minimum requirements.

a) higher than the lowest level of the highest water tube boiler heating surface 100mm, barrel decline steam tube as a heating surface;

- b) the lowest level of horizontal smoke tube boilers above the top of the combustion chamber or pipe tobacco not less than 75mm, the return of many of the smoke tube boilers can be adapted when reduced;
- c) higher than the minimum water level modular boilers hot water pipes is not less than 50mm;
- d) vertical smoke tube boiler lowest water level of not less than 1/2 the height of pipe tobacco;
- e) when the ship heels 4 °, the lowest level still meet the above requirements.

3.1.4

boiler water level control, pressure control, temperature control and combustion control shall comply with the classification rules and GB/T 14650 requirements of.

You should set the necessary means manholes and hand holes on the boiler 3.1.5.

3.1.6

Boiler base should be designed to accommodate thermal expansion of the boiler.

3.1.7

should be set on the boiler is suitable for lifting and fixing lugs.

The outer surface of the boiler 3.1.8 shall be CB/T 3347 requirements of adiabatic packed that the outer wall of the boiler temperature is generally not continuous operation Exceed 60 °C.

3.1.9

Boilers should be able to meet the performance requirements specified in the relevant product standard under the following conditions of the ship tilted.

- a) Horizontal. heeling 15 °, roll 22.5 °;
- b) longitudinal. trim 5 °, pitching 7.5 °.

3.2 Boiler raw materials

3.2.1

boiler pressure parts materials and welding materials shall comply with the appropriate material standards and classification societies norms, and has a complete quality assurance certificate.

3.2.2

boiler pressure parts materials and welding materials factory inspection shall comply with CB/T Requirements 3924's.

3.2.3

Replacement of boiler pressure parts materials should meet the strength and structural requirements, the technical department approval, and reported the Society for approval.

3.2.4

The use of new materials before trial boiler pressure parts, boiler manufacturers respond to new materials welding procedure qualification, and report to the Society Approval.

3.2.5

boiler manufacturer should establish material storage and use of management system. Boiler pressure parts shall be marked with the material. For compression yuan Former member of the steel plate cutting, grafting should be marked and easy to identify.

3.2.6

For the welding material for the boiler, the boiler manufacturer shall establish storage, drying, distribution and recovery management system.

3.3 Boiler fabrication and welding

3.3.1

Manufacturing boiler pressure components shall comply with CB/T 3922 requirements.

3.3.2

pin tube boiler manufacturer shall comply with CB/T 4105 requirements.

3.3.3

Boiler threaded pipe manufacturer shall comply with CB/T 3920 requirements.

3.3.4

Membrane Water boiler manufacturer shall comply with CB/T Requirements of 3596.

3.3.5

Boiler header manufacturer shall comply with CB/T Requirements of 3597.

Manufacturing 3.3.6 Manhole devices should meet CB/T 3921 requirements.

Manufacturing 3.3.7 Boiler hand hole apparatus shall comply with CB/T 3923 requirements.

Welding and heat treatment 3.3.8 boiler pressure components shall comply with GB/T 11038 requirements.

3.3.9

boiler assembly shall comply with CB/T 3348 requirements.