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

GB/T 38068-2019

Heavy duty plain bearings for marine high speed diesel engines

船用高速柴油机重载滑动轴承

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard is proposed and managed by the National Marine Machinery Standardization Technical Committee (SAC/TC137). This standard was drafted. China Shipbuilding Industry Comprehensive Technology and Economic Research Institute, Shanghai Jiaotong University, Chongqing Yuejin Machinery Factory Co., Ltd., smoke Tai Dafeng Bearing Co., Ltd., Weichai Heavy Machinery Co., Ltd., National Ship Armored Product Quality Supervision and Inspection Center, Beibu Gulf University. The main drafters of this standard. Sun Meng, Li Hulin, Zhong Ning, Wang Hairong, Mu Yipu, Li Cunjun, Yin Zhongwei, Yin Xiaoqing, Sun Ridong, Wu Bo, Wang Jiyong, Xia Yijiang. Heavy duty sliding bearing for marine high speed diesel engine

1 Scope

China's national standard for the heavy duty plain bearings used in marine high speed diesel engines. It specifies the classification and marking, the requirements, the test methods, the inspection rules and the marking, packaging and storage. The main and connecting rod bearings of a diesel engine are thin steel shells lined with a bearing alloy, and they carry the gas load of combustion transmitted through the crankshaft - which in a marine engine means several hundred bar acting on a piston, thousands of times a minute, for tens of thousands of hours between overhauls. The bearing survives because a film of oil separates it from the journal, and the alloy's job is what happens when that film thins: it must embed the particles that would otherwise score the crankshaft, conform to slight misalignment, and resist seizing during the moments at start-up when there is no film at all. Marine service adds sustained high load and fuel that may be poor.

This standard specifies the classification and marking, requirements, test methods, inspection rules, signs, packaging, and heavy-duty sliding bearings for marine high-speed diesel engines. Transportation and storage. This standard is applicable to the splitting capacity of marine high-speed diesel engines with rated speed not less than 1400r/min not less than 50MPa. Design, manufacture and inspection of heavy duty plain bearings (hereinafter referred to as bearings).

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article. Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 699-2015 high quality carbon structural steel

GB/T 18326-2001 Metallic multilayer material for sliding bearing thin-walled sliding bearings

JB/T 9749.1-2015 Internal combustion engine bearing bushings Part 1. Metallographic examination of cast copper-lead alloy bearing bushes

3 Classification and marking

3.1 Classification Bearings can be divided into. composite process of running-in layer and matrix.

- a) sputtering bearings;
- b) electroplated bearings;
- c) Spray the bearing.

3.2 Basic parameters The basic parameters of the bearing are shown in Table 1, and the schematic diagram of the composition is shown in Figure 1. Table

1 Recommended size and shape tolerance of bearings are in millimeters Outer diameter D1 wall thickness et Free bomb Tensor Alloy layer thickness Wall thickness tolerance zone Half circumference Tolerance zone Opposite facing the outer circle Busbar parallelism Width tolerance B D1≤100 100 <math>100 <math>160 2, 2.5, 3 3, 3.5, 4, 5 0.5~2.0 0.7~2.5 0.2~0.5 0.3~0.7 0.012 0.015 0.030 0.035 0.030 -0.2 -0.3 160 <math>160 <math>220 D1 >220 4, 5, 6 5, 6, 7.5 1.0~3.0 1.5~4.0 0.3~0.7 0.3~0.8 0.022 0.025 0.045 0.050 0.035 0.040 -0.4