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

GB/T 37171-2018

**Bronze plate containing diamond-shaped solid lubricant -
Specification and test methods**

含有菱形固体润滑剂的青铜板材技术要求和检验方法

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard was proposed by the China Machinery Industry Federation. This standard is under the jurisdiction of the National Sliding Bearing Standardization Technical Committee (SAC/TC236). This standard is drafted by: Zhejiang Zhongda Precision Parts Co., Ltd. Participated in the drafting of this standard. Zhejiang Changsheng Sliding Bearing Co., Ltd., Zhejiang Shuangfei Oilless Bearing Co., Ltd., Zhongjisheng Productivity Promotion Center, Jiashan Sanfu Sliding Bearing Co., Ltd. Bronze plate containing diamond solid lubricant Technical requirements and test methods

1 Scope

China's national specification and test methods for bronze plate inlaid with diamond-shaped solid lubricant. It specifies the product structure, the technical requirements and the test methods. The material is a self-lubricating bearing plate: a bronze backing machined with a pattern of diamond-shaped pockets, each filled with a solid lubricant compound based on graphite or molybdenum disulfide. As the surface slides and wears, lubricant transfers from the pockets to form a film across the whole face, so the bearing lubricates itself continuously without oil or grease. It exists for the places where liquid lubrication is impractical: slow oscillating motion that will not build a hydrodynamic film, high loads, dusty environments that would turn grease into an abrasive paste, water and food applications where oil cannot be tolerated, and hot or inaccessible positions that nobody will re-grease. Injection mould die sets, presses, hydraulic gates and construction machinery pivots use it for exactly those reasons.

This standard specifies the product structure, technical requirements, test methods, etc. of bronze plates containing diamond-shaped solid lubricants. This standard applies to bronze plates containing diamond-shaped solid lubricants (hereinafter referred to as plates). The plate can be processed into a rolled shaft by post-processing Set and thrust washers.

2 Normative references

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

GB/T 228.1 tensile testing of metallic materials - Part 1

GB/T 2059-2017 copper and copper alloy strip

GB/T 4340.1 Metallic materials - Vickers hardness test - Part 1. Test method Methods of chemical analysis of copper and copper alloys - Part 2. Determination of phosphorus content Methods of chemical analysis of copper and copper alloys - Part 10. Determination of tin content

GB/T 5231-2012 Processing of copper and copper alloy grades and chemical composition

3 Product structure

The product structure is made of tin bronze as the base material, and the working surface is rolled with a diamond-shaped recess, and the cavity is filled with a solid lubricant. See the product structure diagram figure 1. Figure 1 product structure

4.1 Material composition

4.1.1 Chemical composition of matrix materials The base materials are QSn8-

0.3 and QSn6.5-0.1, respectively, and the chemical composition should meet the requirements of GB/T 5231-2012.

4.1.2 Lubricant composition A mixture of molybdenum disulfide, graphite and other solid lubricants.