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

GB/T 27553.2-2011

**Specification for plastics-bronze-steel backing triple-layer
self-lubricating materials - Part 2: Plastic overlay with modified
POM**

塑料-青铜-钢背三层复合自润滑板材技术条件 第2部分：带改性聚甲醛（POM）
减摩层的板材

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Quarantine;
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Foreword

GB/T 27553 "Plastics - bronze - steel backing layer composite self-lubricating plate technology," consists of two parts.

--- Part 1. with a modified polytetrafluoroethylene (PTFE) layer, reducing friction plate;

--- Part 2. with modified POM (POM) reducing friction plate layer. This part of GB/T 27553 Part 2. This section drafted in accordance with GB/T 1.1-2009 given rules. This part is proposed by China Machinery Industry Federation. Bearing this in part by the National Standardization Technical Committee (SAC/TC236) centralized. This section is responsible for drafting units. the machine Productivity Promotion Center, Zhejiang Changsheng Sliding Bearing Co., Ltd. Participated in the drafting of this section. Zhejiang SF Oilless Bearing Co., Ltd., Zhejiang Bearing Co., Ltd., Beijing Chaoyang Jianhua Non-oil lubricated bearings plant, steel-backed bearing Liaoyuan City limited liability company. Plastics - Bronze - three self-lubricating composite steel back plate Technical conditions - Part 2. with modified POM (POM) Less friction plate layer

1 Scope

China's national specification for the plastics-bronze-steel backing triple-layer self-lubricating strip whose sliding layer is modified POM. It is Part 2 of GB/T 27553 and specifies the structural features, the technical requirements and the test methods for the material, supplied as strip or plate and formed into wrapped bushes, thrust washers, sliders and guideways. The construction is the same sandwich as in Part 1 - a steel backing that carries the load, a sintered porous bronze interlayer that keys the plastic to the steel and conducts the heat away, and a plastic sliding layer - but the plastic is different, and the difference decides where each part is used. Modified POM is an engineering thermoplastic with far greater mechanical strength and wear resistance than PTFE, and a higher friction coefficient. It also takes a pattern: the POM layer is normally supplied with indentations rolled into it, which are filled with grease on assembly and act as lubricant reservoirs feeding the surface for the life of the bearing. So a POM plate is not a cheaper PTFE plate but the material for a different duty. Where the load is high and the motion is slow or intermittent, and where the bearing can be greased once on assembly, POM carries more

and lasts longer. Where the bearing must run genuinely dry, at higher speed, or where friction itself must be minimal, the PTFE plate of Part 1 is the one. Issuing both as parts of one standard, with a common structure and common test methods, is what lets a designer compare them on the same terms. Issued on 21 November 2011 and in force since 1 June 2012.

This section GB/T 27553 specifies the plastic (modified POM) - Bronze - three self-lubricating composite steel back plate structure characteristics, technical Requirements, test methods. GB/T 27553 apply to this part of the plastic (modified POM) - bronze - steel backing layer composite self-lubricating plate (hereinafter referred to as plates), The plate may be made after the order processing volume bushes, thrust washers, slider, rail and other forms of product.

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 223.69 after carbon and alloy steel - Determination of the pipe furnace combustion gas volumetric method

GB/T 231.1 metallic materials Brinell hardness test - Part 1. Test method (GB/T 231.1-2009,

ISO 6506-1. 2005, MOD) Friction and wear testing method GB/T 3960 plastic slide

GB/T 5121.2 copper portion 2 of copper and its alloys - Analysis. Determination of phosphorus content (GB/T 5121.2-2008, ISO 4741. 1984, MOD)

GB/T 5121.10 copper and copper alloy chemical analysis - Part 10. Determination of tin content (GB/T 5121.10-2008, ISO 3111. 1975, MOD)

GB/T 5121.11 Part 11 copper and alloy chemical analysis method of copper. Determination of zinc content (GB/T 5121.11-2008, ISO 4740. 1985, MOD)

GB/T 6462 and the metal oxide coating layer thickness measurement microscope method (GB/T 6462-2005, ISO 1463.2003, IDT)

GB/T 12613.3 sliding bearings - Wrapped bushes - Part 3. Lubrication holes, lubrication grooves and lubrication points

3 Structural features

3.1 sheet structure Sheet surface by a plastic layer, an intermediate layer of sintered steel backing layer composite made of three layers, the structure shown in Figure 1.