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PEOPLE'S REPUBLIC OF CHINA**

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Test method for vertical roller mill laboratory bench application

立磨试验台应用试验方法

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Foreword

This standard is drafted in accordance with the rules given in GB/T 1.1-2009. This standard is proposed by the China Machinery Industry Federation. This standard by the National Mining Machinery Standardization Technical Committee (SAC/TC88) centralized. The drafting unit. CITIC Heavy Machinery Co., Ltd., Luoyang Mining Machinery Engineering Design and Research Institute Co., Ltd., mine State Key Laboratory of Heavy Equipment. The main drafters of this standard. Zhang Tinglong, Zhang Luoming, Song Xianzhou, Yang Xianli, Wang Jun, Xia Ying, Wang Lihui, Wu Xiaoqiang, Guo Ming Test Method for Application of Vertical Mill

1 Scope

China's national standard for the laboratory bench test that establishes whether a material can be ground in a vertical roller mill, and how. It specifies the terms and definitions, the test conditions, the test system equipment and instruments, the test content and procedure, the calibration of the test system and the test report, and it provides the basis for selecting a vertical mill. It applies to grinding cement raw materials, cement clinker and granulated blast furnace slag. A vertical roller mill grinds by rolling material against a rotating table under hydraulic pressure, with hot gas sweeping the ground product up to a classifier. It has largely replaced the ball mill in cement because it uses far less energy and dries the feed as it grinds. But it is much more sensitive to what it is fed: a material that is too hard, too abrasive, too sticky or too fine wears the rollers, forms an unstable bed or refuses to build one at all. The bench test answers those questions before a mill costing tens of millions is specified.

This standard specifies the terminology and definition of the test method for the application of the vertical mill, the test conditions, the test system equipment and the apparatus, the test content And procedures, test system calibration and test report, to provide the basis for vertical mill selection. This standard applies to grinding cement raw materials, cement clinker and granulated slag grinding mill system.

2 Terms and definitions

The following terms and definitions apply to this document.

2.1 Test yield GP The quality of the product obtained with the determined particle size or specific surface area obtained during the unit time.

Note. The unit is kilograms per hour (kg/h).

2.2 Test stand-alone production power consumption
experimental mill product power consumption Test the power consumed by the mill at the unit mass (at the coupling end).

Note. The unit is kWh per ton ($\text{kW} \cdot \text{h/t}$).

2.3 Relative Grindability Index relative grindability factor KM The ratio of the unit power output of the test piece to the standard material unit productivity. The value is large, indicating that the material is easy to grind.

2.4 Wear wear and consumption Quality of the unit consumes the quality of the wear of the wear piece (disc liner and roller set).

Note. The unit is grams per ton (g/t).

3 Test conditions

The test shall meet the following requirements.

a) system production capacity. grinding cement raw material when the test vertical mill design yield of 640kg/h, grinding cement clinker and granulated slag When the test vertical mill design yield of 200kg/h;

b) the amount of material required for each test. when grinding cement raw material for 800kg ~ 1000kg, grinding cement clinker and granulated slag 400kg ~ 500kg;

c) Feeding particle size. the maximum feed particle size when grinding cement raw material is 5.6mm, the maximum feed grain when grinding cement clinker and granulated slag The degree of 3.15mm;