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

GB 28759-2012

Green sand mixer - Safety requirements

粘土砂混砂机 安全要求

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Foreword

This standard is mandatory for the full text. This standard was drafted in accordance with rules GB/T 1.1-2009 given. The standard proposed by China Machinery Industry Federation. This standard by the National Foundry Machinery Standardization Technical Committee (SAC/TC186). Drafted by: Institute of Jinan Casting Forging Machinery Co., Ltd. The main drafters. Yao Jicheng, Lu Jun, Zhan Changjun. Clay sand mixer safety requirements

1 Scope

GB 28759-2012 is the Chinese national standard on green sand mixer - safety requirements, in the field of manufacturing engineering. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 5 November 2012 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 October 2013. Classification: ICS 25.120.30, CCS J61. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the safety requirements and measures clay sand mixer designers, manufacturers and suppliers, and users should follow. This standard applies to fixed rotor sand mill, sand mill planetary rotor, rotary machine Mixer and various pots grind wheel, balance wheel Mixer (to Hereinafter referred to as mixer). This standard is also applicable to the respective units constituting the apparatus and the auxiliary device assembly clay bonded sand.

2 Normative references

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

GB 2893 Safety colors General specification

GB/T 3766 Hydraulic System

GB 5083 production equipment with safety and health General

GB 5226.1 Electrical safety of machinery Electrical machinery equipment Part 1. General requirements General specification

GB/T 7932 pneumatic system

GB/T 9969 General Industrial Product Manual

GB 12265.3 mechanical safety to avoid crushing of parts of the body minimum spacing

GB/T 14776 Ergonomic design principles job size and value

GB/T 15706.1 Safety of machinery basic concepts general principles for design - Part 1. Basic terminology and methods

GB/T 15706.2-2007 security basic concepts of mechanical design and General Part 2. Technical Principles Ergonomic principles

GB/T 16251 system design work

GB 16754 mechanical design principles of safety emergency stop

GB/T 16855.1 mechanical safety control system safety components - Part 1. General principles for design

3 Important risk projects

3.1 General The following items are important risk according to the provisions GB/T 16856.1 of the equipment within the scope of this standard is the result of the risk assessment. These dangerous items may occur under a predetermined condition specified by the equipment used and instructions for use in transportation, installation, adjustment,

maintenance, disassembly and Processing and other aspects of.

3.2 Mechanical hazards

3.2.1 Mixer is not in the zero state machine, operation and maintenance personnel to enter the machine Risk of crushing sand brought, cut the risk of collision Danger.

3.2.2 grit projection hazard produced by the apparatus.

3.2.3 risk of wound produced by rotation and/or rotation motion of the device element.

3.2.4 equipment during use due to loose, loose, broken or dropped, broken, thrown dangerous may cause.

3.2.5 bump puncture or dangerous equipment surfaces, corners or edges produced.

3.2.6 generated by the surrounding high-altitude operations or equipment slips, trips, fall hazards.

3.2.7 a high pressure fluid jet system of hydraulic and pneumatic systems and/or cause dangerous bursting.

3.2.8 installation, accident during transport emphasis, poor stability, and other causes insufficient strength spreader tilting movement or fall hazard.

3.3 Electrical Hazards

3.3.1 generated from electrical shock hazard system, heat radiation risks.

3.3.2 risk of causing damage to the equipment by the rotor element failure detecting operation.

3.3.3 a drive motor and rotor blade sand due to the rotation power source miswiring errors caused by damage accelerated wear member Danger.

3.4 Noise danger Hearing loss risk of noise and other equipment.

3.5 Materials and hazardous substances produced Risk of operator contact or inhalation

3.5.1 clay, pulverized coal dust caused.

3.5.2 danger of fire or explosion resulting from the production of pulverized coal.

3.6 Other hazards By ignoring the risk of ergonomic principles of ergonomics can cause, such as easy to produce operating direction errors, inappropriate lighting, too much tension And fatigue. 4 and/or safety measures required

4.1 Basic requirements

4.1.1 The equipment should be maximized through design reduces the risk to reach intrinsically safe. By appropriate design can not be avoided or sufficiently limited Risk

system, the operator should be protected using the security device.

4.1.2 Equipment safety design should be consistent with GB T 15706.1, GB/T 15706.2 provisions/and the GB 5083.

4.1.3 In addition to safety equipment shall comply with the provisions of this standard, it must also meet the requirements of GB 20905.

4.1.4 Control System components relating to security and safety requirements should be designed to meet the requirements GB/T 16855.1's.

4.1.5 Equipment design should fully reflect the principles of ergonomics, and should be consistent with GB/T 14776, GB/T 16251 and other relevant standards Provisions.

4.1.6 who can not be eliminated or sufficiently reduced by design, but also its security guards are not fully effective or ineffective legacy wind Insurance, should be through the use of user information notification and warning devices. Usage information is an integral part of the equipment. Should not use the information Designed to compensate for a defect or a safety guard in place.

4.2 Mechanical hazards safety requirements Discharge door shall be interlocked with the multi-stage rotor blade and other moving parts on the device 4.2.1; access door only when the door is in a closed state and observation State, a rotor blade and other moving parts to start. Door equipment should be accompanied by good fixed warning signs.

4.2.2 device should be well sealed, the sealing member should be able to withstand all the brunt of grit and abrasion. Doors and windows on the observation device is turned off after the There should be no sand fly.

4.2.3 The device shall be fitted with an inner wall of the shield which can withstand wear, the mounting of the shield should be strong, should be easy to replace.

4.2.4 When engaged in the installation, adjustment, servicing or maintenance of the operator is in the device, the device should be in the zero state machine, ensure that other people Members unable to start the rotor blade, hydraulic systems and other moving parts.

4.2.5 the operator easy access to the moving parts in motion (e.g., gears, shafts, drive belts, chains, blades, blade, discharging Between the door and the like), or the moving member and a stationary member, to be equipped with an effective protective device, or to take effective measures to limit, or to take limit guard Measures should not result in additional danger. Guard shall comply with GB/T 15706.2-2007 in 5.3.2. Restrictive measures should be consistent GB 23821, GB 12265.3 provisions and other relevant standards.

4.2.6 Mixer access door should be opened a mechanical limiting means, and with an opening movement of the interlock stop.

4.2.7 Mixer rotating machine basin, sand mill rotating circumference of the loop is also