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

GB 24390-2009

Shot(air)blast equipment - Safety requirements

抛(喷)丸设备 安全要求

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Foreword

Chapter 3 of this standard are recommended, the rest are mandatory. The standard proposed by China Machinery Industry Federation. This standard by the National Foundry Machinery Standardization Technical Committee (SAC/TC186) centralized. This standard was drafted. Jinan Foundry and Metalforming Machinery Research Institute, Qingdao Foundry Machinery Group Company, Qingdao Double Star Foundry Machinery Co., Qingdao Kai Shi Seal Industry Co., Ltd., Qingdao Tianshui Foundry Machinery Co., Ltd. The main drafters of this standard. Lu Jun, Wang Zhi, Wu Zhengtao, Dingren phase, Wushou Xi, Zhou Bangwen. This standard is the first release. Parabolic (jet) pill equipment safety requirements

1 Scope

GB 24390-2009 is the Chinese national standard on shot(air)blast equipment - 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 30 September 2009 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 July 2010. 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 throw (spray) pill equipment designers, manufacturers and suppliers, and users should follow. This standard applies to the workpiece surface blasting, shot peening or polishing the joint processing of various types of parabolic (jet) pill device (hereinafter referred to as equipment). This standard also applies to constitute throw (spray) pill device assembly units and auxiliary equipment.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB 150 steel pressure vessels GB 2893 Safety colors (GB 2893-2008, ISO 3864-1.2002, MOD)

GB/T 3766 Hydraulic System General technical conditions (GB/T 3766-2001, eqv ISO 4413.1998)

GB 5083 production equipment with safety and health General

GB 5226.1 Safety of machinery electrical equipment Part 1. General requirements (GB 5226.1-2002, IEC 60204-1. 2000, IDT)

GB/T 7932 pneumatic systems General technical conditions (GB/T 7932-2003, ISO 4414.1998, IDT)

GB/T 9969 General Instructions industrial products

GB 12265.1 machinery Safety distances to prevent danger zones being reached upper limbs (

GB 12265.1-1997, eqvEN294. 1992)

GB 12265.3 Safety of machinery to avoid crushing of parts of the human body minimum spacing (

GB 12265.3-1997, eqvEN349. 1993)

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 methodology (GB/T 15706.1- 2007, ISO 12100-1.2003, IDT)

GB/T 15706.2-2007 Safety of machinery - Basic concepts, general principles for design - Part 2. Technical principles (

3 Terms and Definitions

GB 12265.1, GB 12265.3, GB/T 15706.1, GB/T 16855.1, GB/T 16856.1, JB/T 7536 and JB/T 9978 and established the following terms and definitions apply to this standard.

3.1 Carrying the workpiece, and to a certain movement of the workpiece to the blasting means and/or shot-station. The drum, track, catenary, turn Such as Taiwan.

3.2 Projectile can be recovered, and automatic circulatory system to provide the projectile or shot blasting device. The most common type is a spiral system Delivery composition, bucket elevator, drum sieve, pill sand separator and the like.

3.3 Workpiece loading or unloading of the workpiece carrier means a workpiece from a workpiece carrier. As robot, gripper, spreader.

3.4 This is a mechanical device is in the following state status.

- a) each power source can produce mechanical motion have been disconnected and locked;
- b) After the pressure of the fluid power source is turned off, a portion of the pressure medium is released into the atmosphere or containers eliminate the fluid power source and disconnect the The pressure generated on the device;
- c) all of the pressure vessel are depressurized to atmospheric pressure;
- d) all the mechanical parts are potential device in its lowest actual value;
- e) remain in the pipeline equipment, cylinder, or other parts of the fluid pressure in the valve does not cause any actions appear equipment movement;
- f) have been moved or loose pieces of equipment are fixed;
- g) the device in the above-described state of each process step in the lock, should be subject to starter to start the test (such as when cutting Power off the motor and locked, pressing the start button can verify whether the motor can not start).

4 Important risk projects

4.1 General The following items are important risk based on GB/T 16856.1 requirements for equipment within the scope of this standard risk assessment carried knot fruit. These dangerous items may occur under conditions of intended use by the device specified in the instructions for use and in transportation, installation, adjustment, maintenance Various aspects of repair, removal and treatment and the like.

4.2 Mechanical hazards

- 4.2.1 generated by the device projectile projectile hazards.
- 4.2.2 Risk of crushing parts produced by the device, cut the risk of collision danger.
- 4.2.3 by the rotary motion of the device element and/or rotation produced by winding danger.
- 4.2.4 by the device components and/or workpiece dropped or thrown shock hazard generated. Stab or stabbed danger
- 4.2.5 equipment surfaces, edges or corners produced.
- 4.2.6 by the job or the surrounding high-altitude equipment produced by slips, trips, fall hazards.
- 4.2.7 by the hydraulic system, pneumatic system and high-pressure fluid jet blast pot generated or risk of bursting.
- 4.2.8 installation, accident during transport due emphasis, poor stability, strong enough spreader other causes tilting, moving or falling hazard.

4.3 Electrical Hazards

- 4.3.1 shock hazard generated by the electrical system, the thermal radiation risks.
- 4.3.2 generated by the blasting hose static build up electrostatic discharge hazards.
- 4.4 noise hazard Hearing loss and other equipment noise hazard.
- 4.5 hazardous materials and substances produced The risk of contact or inhalation of dust caused by operator 4.5.1.
- 4.5.2 fire or explosion hazard of dust produced by the manufacturer.

4.6 Device Ignore dangerous design ergonomic ergonomics principles arising

- 4.6.1 In operation, is not conducive to healthy posture or excessive force when monitoring or maintenance.