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

GB/T 22341.1-2008

Cupolas - Part 1: Types and basic parameters

冲天炉 第1部分：型式和基本参数

Issued on: August 11, 2008

Implemented on: February 1, 2009

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine;
Standardization Administration of the PRC**

Table of Contents

- 1 Scope
- 2 Normative references
- 3 Cupola type
- 4 Terms and Definitions

Foreword

GB/T 22341 "Cupola" is divided into two parts.

--- Part 1. Types and basic parameters;

--- Part 2. Technical requirements. This section GB/T 22341 Part 1. This part is proposed by China Machinery Industry Federation. This part of the National Foundry Machinery Standardization Technical Committee (SAC/TC186) centralized. This section is drafted. Qingdao Green Environmental Protection Equipment Co., Ltd., Jiangyin City, casting plant, Qingdao Zhongzhida limited environmental smelting equipment the company. The main drafters of this section. Ronny first, Xiaru Ming, Duan Jin Ting. Cupola Part 1. Types and basic parameters

1 Scope

China's national standard for the types and basic parameters of cupola furnaces. It is Part 1 of GB/T 22341 and specifies the types and basic parameters of cupolas for melting cast iron, applying to coke-fired cupolas. The cupola is the oldest continuously used industrial furnace still in service and it survives because nothing else melts iron as cheaply. It is a vertical shaft charged from the top with alternating layers of coke, metal and flux, with air blown in through tuyeres near the bottom: the coke burns, the metal descends through the burning coke and melts, and the iron and slag collect in the well. Melting and the chemistry happen in the same column, so the composition of the iron that comes out depends on the burden, the coke ratio and the blast, and the furnace runs continuously for a shift rather than in batches. Its economics depend entirely on scale and continuity, which is why it holds the high-volume end of the market - pipe, engine blocks, machine castings - while the induction furnace has taken everything below that. This part standardises the machine rather than its use. It defines the types - the cold blast and hot blast cupolas, the lined and the unlined water-cooled forms, and the divided blast and cokeless variants - and it fixes the basic parameters by which one is specified and compared: the internal diameter at the melting zone, from which the melting rate follows; the melting rate itself; the effective height; the blast volume and pressure; and the tuyere arrangement. Standardising those makes a

cupola specifiable and its components interchangeable. Issued on 11 August 2008 and in force since 1 February 2009.

This section GB/T 22341 specifies the production of cast iron and basic parameters cupola. This section applies to coke-fired cupola.

2 Normative references

The following documents contain provisions which, through reference

GB/T 22341 in this section constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

JB/T 3000 model designation of foundry equipment

3 Cupola type

3.1 cupola press outlet Rows can be divided into.

- a) a single exhaust port cupola;
- b) two air vents cupola.

3.2 cupola by air supply can be divided into.

- b) hot air cupola.

Note. The hot air from hot blast cupola including the cupola and outer heat blast cupola.

3.3 cupola lining press can be divided into.

- a) There are lining cupola (often including lining thin lining and water-cooled cupola);
- b) without lining cupola (non-water-cooled cupola furnace lining).

4 Terms and Definitions

The following terms and definitions apply to this section.

4.1 Melting furnace with a diameter cupola normal smelting.

4.2 In which the main air chamber diameter, that is the main distribution outlet diameter of the circle.

4.3 The ratio of the total area of the outlet and the outlet of the furnace area.