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

**GB/T 23583.2-2009**

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**Molten steel ladles - Part 2: Technical requirements**

钢液浇包 第2部分：技术条件

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### Foreword

GB/T 23583 "liquid steel ladle" is divided into two parts.

--- Part 1. Types and basic parameters;

--- Part 2. Technical requirements. This is Part 2 GB/T 23583 of. 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., Qingdao Zhongzhida Environmental Protection Equipment Co., smelting, casting machine Weihai Mechanical plant, Suzhou Jin-casting plant flowers. The main drafters of this section. Ronny first, gold segment very, Aviva late, Qin Wei Feng. Liquid steel ladle Part 2. Technical requirements

### 1 Scope

China's national technical requirements for molten steel ladles. It is Part 2 of GB/T 23583 and specifies the requirements, the test methods, the inspection rules and the marking, packaging, transport and storage for ladles used to hold and pour molten steel. Where Part 1 says what a ladle is, this part says what it must be, and every requirement in it derives from one fact: the consequence of a ladle failing is a breakout of liquid steel, which kills people and destroys the plant beneath it. So the shell is treated as a lifted structural component rather than a container. Its plate material, thickness and welding are specified, the welds are examined, and the trunnions and their attachment - the single point through which the entire load passes into the crane - carry the strictest requirements in the document, with a defined safety factor and mandatory examination. The shell must also tolerate the thermal condition it works in: the outside of a ladle in service runs at several hundred degrees, the shell expands against a rigid refractory lining, and the distortion that results is what eventually cracks a ladle. The lining is the other half. Its design and installation, the safety lining behind the working lining, and the criterion for taking a ladle out of service are specified, because a lining worn beyond its limit is exactly how a breakout happens. Around those sit the slide gate or stopper mechanism and its operation, the preheating requirement - charging steel into a cold ladle cracks the lining and chills the

metal - the lifting and tilting arrangements, and the inspection regime over the ladle's life. Issued on 13 April 2009 and in force since 1 January 2010.

GB/T 23583 provisions of this part of the molten steel ladle technical requirements, test methods, inspection rules and warranty periods of time. This section applies to metallurgical industry open hearth casting liquid steel furnace and converter using a ladle (hereinafter referred to as a ladle).

## 2 Normative references

The following documents contain provisions cited by the present part of

GB/T 23583, constitute provisions of this part. 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.

GB/T 699 high-quality carbon structural steel

GB/T 700 carbon structural steel

GB/T 985.1 gas welding, arc welding, gas welding and beam welding Recommended groove ( GB/T 985.1-2008, ISO 9692-1.2003MOD)

GB/T 985.2 SAW recommended groove ( GB/T 985.2-2008, ISO 9692-2.1998MOD)

GB/T 1184-1996 shape and position tolerances without individual tolerance value

GB/T 1804-2000 General tolerances Tolerances for linear and angular dimensions without individual tolerance GB/T 3077 alloy steel

GB/T 3098.1 Mechanical properties of fasteners Bolts, screws and studs ( GB/T 3098.1-2000, idt ISO 898-1.1999)

GB 5226.1 Safety of machinery electrical equipment Part 1. General requirements ( GB 5226.1-2002, IEC 60204- 1.2000, IDT)

GB/T 9439 Gray Iron Castings

GB/T 10089 cylindrical worm and precision

GB/T 11352 Carbon steel castings for general engineering purposes

GB/T 11365 bevel gear and hypoid gear precision GB/T 13306 signs

### 3.1 General requirements

3.1.1 ladle shall comply with the provisions of this standard and JB/T 1644, and was manufactured in accordance with prescribed procedures approved by the drawings and

technical documents.

3.1.2 ladle all weldment welded joints should be consistent with GB/T 985.1 and GB/T 985.2 requirements, welding quality should be consistent JB/T 9873 requirements of.

3.1.3 ladle all connecting bolts, screws shall comply with GB/T 3098.1 of.

3.1.4 ladle outer surface of the metal layer should be coated with anti-corrosion coating should be uniform complete, seamless paint, corrosion, rust primer surface application package Brushing.