

ICS 25.120.30

CCS J61



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

GB 25683-2010

Molten steel ladle - Safety requirements

钢液浇包 安全要求

Issued on: December 23, 2010

Implemented on: January 1, 2012

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China;
Standardization Administration of China**

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Foreword

All the technical contents of this standard is mandatory. This standard was drafted in accordance with GB/T 1.1-2009 given rules. 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. Qingdao Green Environmental Protection Equipment Co., Ltd., Qingdao Environmental Protection cupola furnace power plant, foundry machinery Weihai workers have Limited, Qingdao VWIN Metal Structure Co., Ltd., Qingdao Environmental Protection Zhongzhida Melting Equipment Co., Ltd. Qingdao Machinery Co., Ltd. Han and Tang Dynasties. The main drafters of this standard. Ronny first, Qin Yuqi, Chi Yingjie, Wang Hui, DUAN Jin Ting, in Guohua. Liquid steel ladle safety requirements

1 Scope

GB 25683-2010 is the Chinese national standard on molten steel ladle - 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 23

December 2010 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 January 2012. 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 ladle of molten steel design, manufacture and use of safety requirements. This standard applies to the production of steel-making and casting liquid steel ladle (hereinafter referred to as a ladle).

2 Normative references

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

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 985.2 SAW recommended groove GB/T 3077 alloy steel

GB 5226.1 mechanical and electrical safety of machinery - Electrical equipment - Part 1. General requirements

GB/T 9439 Gray Iron Castings

GB/T 9445 NDT personnel qualification and certification

GB/T 9969 General Instructions industrial products

GB/T 11352 Carbon steel castings for general engineering purposes

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

GB/T 14776 Ergonomic design principles job size and value

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

GB/T 16251 design of work systems

3 Important risk projects

3.1 General The following items are important risk according to GB/T 16856.1 requirements for equipment within the scope of this standard is the result of the risk assessment. These dangerous items may occur under conditions of use press equipment specified in the instructions or in the transportation, installation, adjustment, repair, demolition and other Session.

3.2 Mechanical hazards

3.2.1 by the ladle mechanical strength, mainly the stability may have broken, cracked, overturning and moving dangerous unpredictable.

3.2.2 by the ladle components and objects thrown or falling shock hazard generated.

3.2.3 by the ladle surface, edges or corners produced stabbed or cut hazards.

3.2.4 or fall from the high-altitude operations generated around the device, slipping, tripping hazard.

3.2.5 Refractory improper operation caused by the rupture, leading to damage the parts off the ladle, the risk of capsizing.

3.2.6 by the lifting equipment caused by improper configuration ladle lifting failure caused by overturning the ladle off the danger.

3.2.7 Cleaning up the package lining, because the lining stick hanging steel slag caused by stab wounds or cuts the risk of shedding its lining and produced by crushing hazard.

3.2.8 by a collision ladle lifting process to persons generated a crushing hazard.

3.2.9 Due to squeeze ladle narrow operating environment resulting risk of injury.

3.2.10 ladle by the operating tools and materials and the improper use of improper placement bumps produced a fall hazard.

3.3 Electrical Hazards

3.3.1 Risk of electric shock generated by the electrical system.

3.3.2 ladle dangerous movement by the unexpected failure of the electrical generating system caused.

3.3.3 fire danger caused by the electrical fault.

3.4 Thermal hazards

3.4.1 steel liquid spills, splashes, burns flame and thermal radiation generated by the burns and burns.

3.4.2 Danger of burns caused by the high temperature enclaves.

3.4.3 slag caused by the burns, burns and fire hazard.

3.5 Other hazards

3.5.1 inhalation and poisoning hazard caused by smoke and other harmful gases and prevent the danger caused by normal operations.

3.5.2 burns caused by the water vapor, the risk of burns.

3.5.3 visual impairment caused by hazardous liquid steel surface of the light radiation.
Ignore

3.5.4 ladle design ergonomic ergonomics principles arising from danger.

3.5.5 Due to the risk of the use of personal protective measures are not generated.

3.5.6 Explosion hazard due to standing water or wet locations pouring molten steel caused.

3.5.7 Explosion hazard due to standing water or wet liquid or ladle pouring steel slag caused.

3.5.8 Since the molten steel spilled into the bag or hook shaft and bearing clearance, resulting in dangerous operation failures.

4 safety requirements and measures

4.1 Mechanical hazards

4.1.1 ladle provisions should be consistent with GB T 23583.2 and JB/T 1644, the drawings and technical documents in accordance with prescribed procedures approved manufacture.

4.1.2 ladle barrel, hanging climbing, beam, boom materials used should be consistent with GB/T 700 provisions.

4.1.3 pouring bags shaft seat materials used shall comply with GB/T 11352 of.

4.1.4 ladle used in the alloy structural steel shall comply with GB/T 3077's.

4.1.5 package axis mechanical properties of materials used in not less than 35 steel and shall comply with GB/T 699's.

4.1.6 gearboxes used iron castings shall comply with GB/T 9439, and steel castings shall comply with GB/T 11352 of. Testing and inspection should be carried out after the

4.1.7 package axis machining, testing requirements should be consistent with JB/T 5000.15 regulations. Inspectors should GB/T 9445 are qualified.

4.1.8 weld groove ladle all welded parts should be consistent with GB/T 985.1 and GB/T 985.2 requirements, welding quality should be consistent JB/T 9873 requirements of.