

What is slag pot?



Slag pot is a load-bearing device, whose purpose is to collect molten or solid slag generated during metallurgical or chemical processes, to retain it during transport and to deposit it at a place of disposal.

Slag pots are very important parts as they are part of a lifting equipment and therefore undergo in terms of mechanical design engineering and handling the national safety

regulations of the state where they are supposed to be operated. The design of Great Wall Steel Casting Company slag pots intended to be used within the European Community meets the requirements of the European Machinery Directive every slag pots is supplied with the CE and ISO conformity marking.

What is the material of slag pot?

Slag pots are made out of carbon steel, nickel steel ect. This material is similar to the steels A27/A 27M grade 65-35: April 2003, BS 3100 A1/A2: January 1991 or GS 20Mn5 to DIN 17182: May 1992. DICAST is a fully killed steel, vacuum-degassed and processed to a fine grain size structure with improved properties both in toughness and in elongation.

- **Chemical composition** verified on product

Elements	C	Si	Mn	P	S
Required	≤0.23%	≤0.55%	≤1.65%	≤ 0.025%	≤ 0.025%
Typical	0.17%	0.40%	1.45%	0.015%	0.002%

- **Mechanical properties** checked at room temperature in the delivery condition i.e. after completion of the quality heat treatment from cylindrical cast-on test blocks (∅ 60 mm x 250 mm) available on every slag pot: both the sample preparation and the testing comply with ASTM A 370-96.

Properties	R _m	R _{eh}	A	KCV (average of 3 specimens / individual)
Required	≥ 450 MPa	≥ 240 MPa	≥ 20 %	≥ 55 J / 39 J
Typical	490 MPa	280 MPa	30 %	120 J / 85 J

Slag Pot Production Process:



1. Moulding the castings are manufactured in a workman-like manner as required in the German standard DIN EN 1599-1: August 1997, ruling the delivery conditions of castings. The moulding is individually carried out within a modular flask by using a sand preparation based on resin bonding.

2. Trunnions - they are preferably cast, they are as a rule manufactured from the steel material S355 J2G3 to DIN EN 10250-2: December 1999 and forged as per DIN 7527 February 1975. Cast-on or hot-fitted trunnions can be also provided.

3. Melting the melting is carried out in the oxygen steel plant (2 off 180 t BOF converters); the ladle capacity allows a continuous bottom pouring process the speed of which is permanently controlled. The metal analysis is checked by using a computer linked spectrograph.

4. Heat treatment every pot undergoes a combined quality heat treatment (annealing) aiming both to grain refining and to stress relieving i.e.: - heating to a temperature above AR3, austenitising at about 915°C and controlled cooling in furnace - intermediate holding at 600°C - 630°C and completion of cooling in furnace down to 300°C

5. Fettling and dressing The inner surface is processed fit-for-purpose so that the surface discontinuities - which might cause some sticking of the slag - are extensively removed. Additionally, the castings are descaled by shotblasting

and the outside is additionally coated for transportation. The surface quality results from the comprehensive practice of the manufacturer qualified by the requirements of MSS SP-55-1996 (Visual Method for Evaluation of Surface Irregularities)

Quality assurance of our slag pot:

The fabrication route is governed by the provisions of the implemented Quality System ISO 9001: 2000.

The standard documentation ensures the full traceability of every process step:

- Manufacturer test certificates according to DIN EN 10.204 § 3.1 including chemical composition,

mechanical properties and non-destructive examination;

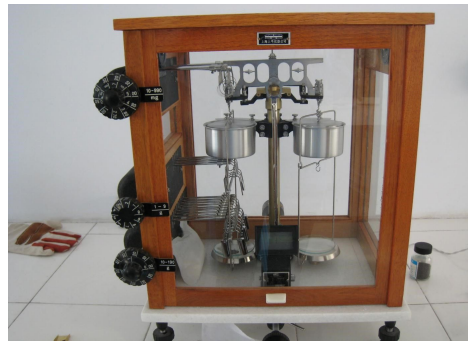
- Dimensional check supported with a “as-built“ sketch;

- Record of the quality heat treatment;

- Documentation required by the Machinery Directive 2006/42/EC



Our quality testing equipments of steel casting:



Great Wall Steel Casting has strong steel casting production capacity.

Great Wall Steel Casting Company has strong production and processing capacity, advanced facilities and fully equipment. It has $\phi 8\text{m}$ heavy double-column vertical lathe, $\phi 6.3\text{ m}$ vertical lathe and $\phi 8\text{m}$ gear hobbing machine imported from Russian, Czech T6920 landing boring-milling machine and domestic TX220 floor type boring-milling machine, 6625Y (2.5m \times 8.0m) gantry milling machine imported from Russia, domestic 120 \times 3000 heavy CNC Universal Machine, and other processing equipment.