

Some situations that affect the service life of the slag pots



Slag Pot for Steelmaking

As one of the important metallurgical containers, the slag pot plays an important role in steelmaking. The stress accumulated in the cast steel slag pot during the casting process and the harsh conditions faced during the use process have a great influence on the life of the slag pot.

1. The influence of abnormal slag in converter

The abnormal slag of the converter is mainly the slag of the washing furnace before dismantling and the slag with high temperature and high iron oxide produced by smelting special steel. The temperature of the steel slag produced by the furnace washing operation is higher than that of the conventional slag, the content of iron oxide in the slag is high, and the fluidity is good. After entering the slag pot, the iron oxide in the slag will react chemically with the slag pot body, and also the impact of the temperature load of the slag itself may cause a slag pot penetration accident.

2. The influence of continuous casting ladle casting surplus

In addition to a part of the steel slag, the surplus also contains molten steel, both of which are higher than or close to the melting point of the cast steel. If the slag pot is not specially

treated, when the casting surplus is large, the molten steel will directly contact the slag. The cast steel material of the pot body may be corroded to cause the slag pot penetration accident or slag bonding.

3. The impact of external blows on the slag pot

When the slag pot and the steel slag contained in it are bonded, so that the pot cannot be turned over normally, the pot needs to be continuously hit to help pour out the slag. The mechanical force in the hitting process is transmitted in the slag pot in the form of waves, and superimposed locally, causing damage to the slag pot.

4. The influence of temperature difference

In areas with cold climates, the operating temperature of the slag pot is quite different from the natural temperature, which may easily cause problems such as cracking of the slag pot.

In the above situation, the following measures can be taken:

1. For the abnormal slag of the converter and the residual casting of the continuous casting ladle, the collected waste paint of the tundish is used to cushion the slag pot.
2. Do a good job of preheating the slag pot.
3. If there are traces of water and moisture in the slag pot, and if the anti-stick slag agent has just been applied, the red-hot slag above 100°C must be tapped into the bottom of the slag pot and kept for more than 5 minutes before it can be put into use.
4. Slag pots in different states should be used for slag of different locations and properties.

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