

### 论文摘要

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### 卧式转炉炉衬温度场的数值模拟

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**摘 要:** 为了研究转炉炉衬风口区和炉口区易于受损的成因, 通过数值模拟的方法建立了炉衬在吹炼的不同时期的温度场数学模型, 并对之进行了分析。研究表明: 在风口区和炉口区, 从内壁到外壁的温度分布极不均匀, 尤其是在刚加入铜铈时风口区和炉口区内壁的温度梯度最大; 炉衬温度的剧烈变化是导致风口区和炉口区炉衬容易损坏的重要原因。

**关键字:** 数值模拟; 温度场; 转炉炉衬; 温度梯度

### Numerical simulation of temperature field in lining of horizontal converter

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**Abstract:** The mathematical model of temperature field of blast nozzle and throat of converter lining was established in different operating periods by numerical simulation. The reason that caused blast nozzle and throat being easily damaged was pointed out and analyzed in detail. The research result shows that the temperature distributions are very different from inside wall to outside wall in blast nozzle and throat, especially, the temperature gradient is the largest at the moment of matte feeding. This is a major reason that caused blast nozzle and throat being easily damaged.

**Key words:** numerical simulation; temperature field; lining of converter

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