



## 论文摘要

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### 难选锡中矿的氧化球团强度

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**摘 要:** 难选锡中矿经高温氯化制得的氯化焙球中各有色金属含量符合要求,但其抗压强度较低,达不到高炉炼铁的要求.为提高氯化焙球的抗压强度,对难选锡中矿氯化焙球的高温氧化固结进行了研究,考察了氧化固结温度、恒温时间、气氛和升温速度等对氯化焙球氧化固结时强度的影响,获得了最佳的固结条件:温度1 200℃,恒温时间35min,氧化气氛中氧的质量分数10%~12%,升温速度8~9℃/min.在最佳条件下,获得的氧化焙球中铁的质量分数达40%以上,其它各有色金属的质量分数分别为:w(Sn)<0.02%,w(Pb)<0.02%,w(As)<0.05%,w(Zn)<0.04%,w(Cu)<0.18%,而且氧化焙球的抗压强度达到了1 500 Pa左右,满足了高炉炼铁的要求.

**关键字:** 锡中矿;氯化焙球;氧化固结;抗压强度

### Compression strength of chloratized roasted and oxidation-solidification pellet of difficult-to-separate tin middling mine

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**Abstract:** The contents of non-ferrous metals in chloratized roasted pellet were perfect, but the compression strength was not up to grade. The oxidation-solidification of chloratized roasted pellet obtained from chloration-volatilization of difficult-to-separate tin middling mine was studied in details, so as to enhance the compression strength. Several parameters such as temperature, the time of constant temperature, atmosphere, the speed of temperature elevation and so on were investigated respectively, and then the optimum conditions were obtained as follows: temperature was 1 200℃, constant time was 35 min, the content of O<sub>2</sub> in atmosphere was 10%~12% (mass fraction) and the speed was 8~9℃/min. Under the optimum conditions, the content of Fe in the oxidized roasted pellet was more than 40%, the other main non-ferrous metals contents were w(Sn)<0.02%, w(Pb)<0.02%, w(As)<0.05%, w(Zn)<0.04%, w(Cu)<0.18%, and the average compression strength of oxidized roasted pellet is 1 500 Pa, which could satisfy the needs of blast furnace.

**Key words:** tin middling mine; chloratized roasted pellet; oxidation-solidification; compression strength

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