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硫化铅精矿无SO₂排放反射炉一步炼铅半工业试验

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摘要: 以西部矿业公司自产硫化铅精矿和进口高锌硫化铅精矿为原料, 在1m²的小反射炉上进行了硫化铅精矿还原造锍熔炼的半工业试验。结果表明: 烟气中SO₂含量达标, 固硫率≥96%, 铅直收率≥87%, 总回收率≥96%, 粗铅质量高, 符合电解精炼要求。说明硫化铅精矿无SO₂排放一步炼铅新工艺实现大规模的工业应用是完全可能的。

关键字: 还原造锍熔炼; 还原剂; 无污染冶金; 一步炼铅

One-stage smelting lead from lead sulfide concentrates in reverberatory furnace without sulfur dioxide

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Abstract: Lead sulfide concentrates produced by Corporation of West Mining and imported concentrates containing high zinc were used as the test materials, respectively. The semi-industrial experiments of matte-making reduction smelting of the concentrates were carried out in a reverberatory furnace with area of 1m². The experiment results show that the contents of SO₂ in exhaust gas are lower than that of the national standard, the ratio of sulfur fixation, direct and total recovery of lead are higher than 96%, 87%, and 96%, respectively, and the crude lead has high quality that can be directly used in electrolytic refining. It is showed that the new process is feasible to be put into use in industry production on the large scale.

Key words: matte-making reduction smelting; reducing agent; free-pollution metallurgy; single-step smelting lead

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