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用AC法从高锑低银类铅阳极泥中回收银和铅

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摘要: 用AC法处理高锑低银类铅阳极泥, 其氯化浸出渣经转化脱氯、硅氟酸浸铅、氨水浸银和水合肼还原, 得到含Ag大于95%的银粉, 铅以硅氟酸铅溶液返回电解精炼。在V苏打溶液/m浸出渣=4 mL/g, n苏打实=1.6n苏打理, 转化时间为4 h及温度为80℃的最佳转化条件下, 铅、银、氯的平均转化率为91.42%; 在V(H₂SiF₆)/m浸出渣=4 mL/g, 浸出时间为1 h, 温度为50~60℃的最佳浸铅条件下, 硅氟酸浸铅率为85.74%~86.07%, 硝酸浸铅率大于95%; 在浸银过程中, 银的浸出率约为94.0%, 沉银率约为98.0%。在整个工艺中, 银的直收率及总回收率分别为93.63%及98.80%, 铅直收率为85.91%, 总回收率98.99%。

关键字: 银; 铅; 转化; 氨浸

Recovery of silver and lead from lead electrolysis refining anodic slime bearing high antimony and lower silver by AC process

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Abstract: The chlorination-leached residue in AC process for treating lead electrolysis refining anodic slime bearing high antimony and lower silver can be translated to remove Cl, lead is leached by H₂SiF₆ solution and returned to the electrolysis refining process as a solution of PbSiF₆, silver is leached by an ammonia solution and reduced by solution of N₂H₄·H₂O to obtain silver powders containing Ag more than 95%. Under the optimum conditions that the ratio of liquid to solid, the use amount of soda, the reaction time and temperature is 4, 1.6 times of theoretic amount, 4 h and 80℃, the average translated ratio of lead chloride is 91.42%. When the ratio of liquid to solid is 4, the reaction time and temperature is 1 h and 50~60℃ in the leaching lead process, the leached lead ratio is 85.74%~86.07% by H₂SiF₆ and more than 95% by HNO₃. In the leaching silver process the leached ratio and precipitated ratio of silver is 94.0% and 98.0%. In the process, the comprehensive utilization of value elements is very high without environmental pollution and the metal recovery ratios are high that direct and sum ratio of silver are 93.03% and 98.80% respectively, and that of lead is 85.91% and 98.99%.

Key words: silver; lead; translation; leaching by ammonia

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