



## 论文摘要

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### 锌精馏铅塔燃烧室热工问题诊断

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**摘 要:** 针对韶关冶炼厂锌精馏过程中1号铅塔燃烧室内存在上、下空间温差较大,第2层空气助燃作用很小,第3层空气基本上失去助燃作用等问题,对铅塔燃烧室进行了热工测试.发现铅塔燃烧室内水平方向的温度并非均匀,而且其温差比上、下方向的温差更大.通过对铅塔燃烧室热工诊断及研究,得出导致铅塔燃烧室内烟气与塔盘外壁在水平和上、下方向温差大的原因是:燃烧室内煤气、空气以及烟气在各喷口的分布,燃烧室和换热室间隔墙具有保温作用,燃烧室内烟气扰动,直升烟道对第2层煤气和第2,3层空气加热.其中,直升烟道对第2,3层空气的加热作用以及它们较大的沿程阻力导致第2层空气助燃作用小,第3层空气基本上失去助燃作用.这种诊断结果有利于铅塔燃烧室的正常运行和维护.

**关键字:** 锌精馏; 铅塔; 燃烧室; 诊断

### Diagnosis about problem of heat conditions in combustion chamber of lead column in the zinc refining

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**Abstract:**In combustion chamber of 1#lead column in the zinc refining in Shao guan Smelter CNNC, there are some problems, such as the difference between its upper temperature and its lower temperature is considerable, the second layer air has only a little of support burn function, the support burn function was lost for the third air. To solve these problems, heat conditions of combustion chamber of lead column were measured. The results of the measure indicate that temperature in the level direction in combustion chamber of lead column is not uniform, on the contrary, its difference is bigger than that in the vertical direction. According to diagnosis and study of heat conditions of combustion chamber of lead column, some conclusions are obtained, such as symmetrical distribution of gas,air and smoke in each spout in the same layer, heat preservation due to the wall between combustion chamber and heat exchanger, exhausted gas disturbance in combustion chamber, and the second and the third air heat by straight rising flue. The air in the second and the third layer is heated by straight rising flue, their biggish resistance along their roads explains why the second layer air has only a little of support burn function and why the support burn function was lost for the third air. The diagnosis results are beneficial to normal maintenance and operation of combustion chamber of lead column.

**Key words:**zinc refining; lead column; combustion chamber; diagnosis

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