

Optimization and Modification Designing Feedback

JIN HE Abrasive Co.,Ltd. purchased mill liner from other manufacturer and meet some problems, we CIC analysis and solve the problems successfully.

❖ **Client:** JIN HE Abrasive Co.,Ltd.

❖ **Mill Specification:** $\Phi 5.5 \times 2.4 \text{m}$

❖ **Problems Description:**

1) Cracking and arching deformation of mill liner was found after running the mill in a few days.

2) Breakage of fixing bolt caused by the arching deformation of mill liner.

❖ **Reasons analysis:**

1) The quality of mill liner is not qualified because the materil is not right. The mechanical property of mill liner can not meet the mill working condition, so caused the breakage of mill liner.

2) Wrong structure designing of mill liner.

❖ **Solution:**

1) Adopt pearlite wear resistant chrome molybdenum as materil of mill liner HMCB and HMCB02 series, the hardness standard is HB325-375, impact energy $\geq 55 \text{J}$.

2) Design and transformation of shell liner according to the designing standard of SAG mill liner.

3) Add the monitoring frequency of mill grinding sound, add the feeding timely when the filling is not sufficient.

❖ **Feedback from the client:**

CIC did the optimization and modification of mill liners and solved the problems of mill liner cracking and arching tranformation. The service life of mill liner is prolonged after improving. We get a good reputation from our customer.

受控
特钢厂

质量信息反馈单

编号: Q/JL7210

序号:

责任部门: 金和耐磨有限公司

产品或零件名称: 筒体衬板 图号:

质量问题描述:

煎茶岭铝业有限公司 $\phi 55 \times 2.4m$ 半自磨机, 在运行过程中发生筒体衬板断裂及变形拱起现象, 因衬板拱起变形而拉断衬板紧固螺栓, 筒体衬板的裂纹均发生于衬板与平板部位, 大多数裂纹贯穿衬板螺栓孔。部分裂纹呈非正常的脆性放射状裂纹。

填表人: 姜伟 日期: 15.2.1

原因分析:

- 1> 因衬板制造质量不合格或是选材错误, 综合力学性能不能满足磨内工况要求导致衬板损毁。(经检测现场衬板为高温钢)
- 2> 因衬板设计结构错误恶化磨内工况导致衬板损毁。
- 3> 磨机工况不正常造成钢球直接冲砸损毁衬板。

责任部门责任人: 禹强华 日期: 15.2.4

纠正或预防措施:

- 针对 1> 选用珠光体耐磨铬钢材质 — HMCB 系列, HMCB02 硬度标准为 HB: 325-375, 冲击功 Ak 25J, 是满足此工况的最佳选材。
- 2> 依照半自磨机衬板设计规范进行磨机筒体衬板设计改造, 正确导向磨球抛落轨迹。
- 3> 加强磨机磨音监测, 当磨内混合充填率不足时应采取加大给料量、调整磨球级配的措施予以修正。防止混合充填率不足。

责任部门责任人: 姜伟 日期: 15.2.4

跟踪验证及反馈:

经过我公司的优化选材和优化设计等措施的改造, 彻底解决了煎茶岭铝业 $\phi 55 \times 2.4$ 半自磨机的筒体衬板断裂、变形拱起的问题, 并且有效延长了衬板的使用寿命达半年以上, 得到了煎茶岭铝业有限的一致好评。

验证部门: 张万鑫 日期: 15.2.7