

Technical Requirements for FE001 Apron Feeder Chute Liners

卡拉拉 FE001 板式给料机溜槽衬板技术要求

1. Supplier Qualification Requirements

1. 供应商资质要求

The supplier shall demonstrate proven experience in the design, manufacture and supply of wear liners for apron feeder chutes, transfer chutes or comparable bulk material handling equipment operating under high-impact and highly abrasive mining conditions.

Minimum requirements include:

- Proven experience in supplying wear liners for iron ore or comparable highly abrasive bulk materials.
- Demonstrated successful operating experience or trial results under conditions comparable to the FE001 apron feeder chute.
- Provision of reference projects where the proposed liner material or an equivalent product has been successfully installed and operated.
- Demonstrated capability to provide liner installation support, wear monitoring and failure analysis.
- Provision of reference projects where liners have been successfully installed and operated

供应商须具备板式给料机溜槽、转运溜槽或类似高冲击、高磨蚀性矿山散料输送设备耐磨衬板的设计、制造及供货经验。

最低要求包括：

- 具备铁矿石或类似高磨蚀性散装物料耐磨衬板的供货经验。
- 具备与 FE001 板式给料机溜槽相近工况下的成功运行经验或试验验证结果。
- 提供拟供衬板材料或同等产品已成功安装并投入运行的现场业绩。
- 具备提供衬板安装支持、磨损监测及失效分析的能力。

2. Minimum Service Life Requirement

2. 最低使用寿命要求

The supplied liner system shall achieve a minimum service life of 54 weeks under normal operating conditions comparable to those of the FE001 apron feeder chute. The required 54-week service life is equivalent to six scheduled Primary Crusher concave liner rebuild cycles.

The current FE001 liner service life is approximately 18 weeks, equivalent to two scheduled Primary Crusher concave liner rebuild cycle. Therefore, the proposed liner system shall demonstrate a significant improvement in wear resistance and shall achieve at least three times the current liner service-life baseline.

Throughout the required 54-week service life, the following conditions shall not occur:

- Wear-through of any liner plate that exposes the chute mother plate.
- Cracking, fracture, spalling or delamination that affects the protective function of the liners.
- Abnormal deformation, displacement or loss of liner plates.
- Loosening, fracture or loss of bolts, washers or nuts.
- Damage to the FE001 chute mother plate or supporting structure caused by the supplied liner system.
- Any liner-related failure resulting in an unplanned shutdown or an unacceptable operational or safety risk. associated internal components

供应商提供的衬板系统在与 FE001 板式给料机溜槽相近的正常运行工况下，最低使用寿命不得低于 54 周。规定的 54 周最低使用寿命相当于六次粗破定锥衬板计划重建周期。

现有 FE001 衬板的平均使用寿命约为 18 周，相当于两次粗破定锥衬板计划重建周期。因此，拟供衬板系统须显著提高耐磨性能，实际使用寿命至少达到现有衬板寿命基准的三倍。

在规定的 54 周使用寿命内，不得出现以下情况：

- 任何衬板提前磨穿并导致溜槽母板暴露。
- 出现影响衬板防护功能的开裂、断裂、剥落或分层。
- 衬板发生异常变形、移位或脱落。
- 螺栓、垫片或螺母发生松动、断裂或脱落。
- 因拟供衬板系统对 FE001 溜槽母板或支撑结构造成损伤。
- 因衬板相关失效导致非计划停机，或产生不可接受的运行及安全风险。

3. Scope of Supply

3. 供货范围

The supplier shall provide one complete liner package covering the following FE001 apron feeder chute areas only:

- Zone 1: 148 liner plates.
- Zone 2: 18 liner plates.
- Associated fasteners and installation hardware.

The total quantity of liner plates shall be 166 pieces. Liners outside Zones 1 and 2 are excluded from this scope of supply unless otherwise requested or approved in writing by Karara Mining Limited (KML). The locations and extent of the liner plates included in Zones 1 and 2 are shown in the figure below.

供应商须提供一套完整的 FE001 板式给料机溜槽衬板，本次供货仅包括以下区域：

- Zone 1（区域 1）：148 块衬板。
- Zone 2（区域 2）：18 块衬板。
- 相关紧固件及安装配件

衬板总数量为 166 块，除非卡拉拉另行书面要求或批准，区域 1 和区域 2 以外区域的衬板不包含在本次供货范围内。区域 1 和区域 2 的衬板位置及范围如下图所示

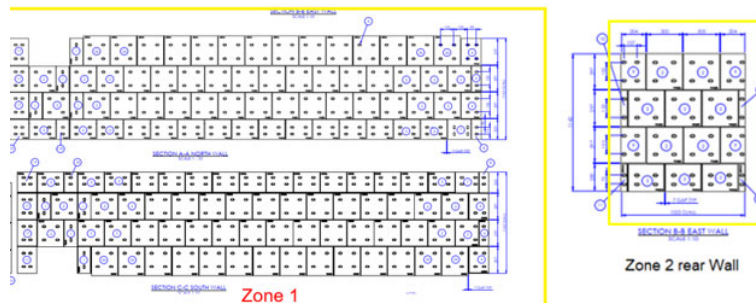


Figure 1, FE001 Chute Wall for Zone 1 and Zone 2

4. Dimensional and interface Requirements

4. 尺寸及接口要求

The supplied liners shall be fully compatible with the existing FE001 chute structure, liner arrangement, mounting interfaces and fastening system.

The supplier shall verify all relevant dimensions before manufacturing. The supplied liners shall:

- Match the existing liner profiles, arrangement and installation positions.
- Align with the existing mounting holes and fastening locations.
- Fit correctly against the existing chute mother plate.
- Maintain the required clearances between adjacent liner plates and surrounding structures.
- Not require modification, cutting, drilling or welding of the existing chute mother plate or main structure unless specifically approved in writing by KML.
- Not adversely affect the material flow path, chute capacity or operation of the FE001 apron feeder.

Any dimensional discrepancies identified by the supplier shall be formally raised with KML before manufacturing commences.

拟供衬板须与现有 FE001 溜槽结构、衬板布置、安装接口及紧固系统完全兼容。

供应商须在制造前核实所有相关尺寸。拟供衬板须满足以下要求：

- 与现有衬板外形、布置方式及安装位置一致。
- 与现有安装孔及紧固位置准确匹配。
- 能够与现有溜槽母板正确贴合。
- 保证相邻衬板及周边结构之间具有适当间隙。
- 除非获得卡拉拉书面批准，不得要求对现有溜槽母板或主体结构进行切割、钻孔、焊接或其他改造。
- 不得对物料流动路径、溜槽通过能力或 FE001 板式给料机的正常运行产生不利影响。

如供应商发现任何尺寸差异，须在开始制造前正式提交 KML 确认。

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5. Weight Requirements

5. 重量要求

The total weight of the proposed Zone 1 and Zone 2 liner package shall not exceed 140% of the total weight of the corresponding existing Zone 1 and Zone 2 liners.

The weight comparison shall be based on:

- The same confirmed quantity and liner locations.
- The corresponding existing liner weights.

- Liner plates only, excluding bolts, washers, nuts and packaging.

The supplier shall provide a detailed weight schedule showing:

- Proposed unit weight for each liner reference.
- Total proposed liner weight.
- Total weight of the corresponding existing liners.

拟供区域 1 和区域 2 衬板的总重量不得超过对应现有 Zone 1 和 Zone 2 衬板总重量的 140%。

重量对比须基于：

- 相同的最终确认数量及安装位置。
- 对应现有衬板的重量。
- 仅计算衬板重量，不包括螺栓、垫片、螺母及包装重量。

供应商须提交详细的重量明细，包括：

- 每种衬板编号的拟供单件重量。
- 每种衬板编号的最终采购数量。
- 拟供衬板总重量。
- 对应现有衬板总重量。

6. QA/QC and Documentation Requirements

6. 质量保证与技术文件要求

The supplier shall provide the following documentation as part of the supply:

- QA/QC documentation.
- Dimensional inspection reports.
- GA drawings.
- Detailed liner weight schedule.
- Installation instructions.
- Bolt-tightening procedure and torque requirements.
- Packing list separately identifying liners, bolts, washers and nuts.
- Reference projects or trial results supporting the required 54-week service.

供应商须提供以下质量及技术文件：

- QA/QC 质量文件。
- 尺寸检测报告。
- GA 图纸。
- 详细的衬板重量明细。
- 安装说明。
- 螺栓紧固程序及扭矩要求。
- 分别列明衬板、螺栓、垫片及螺母的装箱清单。
- 支持 54 周使用寿命要求的现场业绩或试验结果。

7. Warranty Requirement

7. 质保要求

The minimum warranty period for the supplied liner system shall be 54 weeks from the date the liners are installed and placed into service under normal operating conditions. The warranty period is equivalent to six scheduled Primary Crusher concave liner rebuild cycles.

拟供衬板系统的最低质保期为 54 周，自衬板完成安装并在正常工况下投入运行之日起计算。该质保期相当于六次粗破定锥衬板计划重建周期。。

8. Technical Support Requirement

8. 技术支持要求

The supplier shall provide:

- Technical support during liner installation.
- Review of the completed liner installation when requested by KML.
- Failure investigation and root cause analysis for premature or abnormal wear.
- Recommendations regarding replacement criteria and future inspection intervals.

The supplier shall provide timely technical responses throughout the 54-week warranty period.

供应商需要提供：

- 衬板安装期间的技术支持。
- 根据卡拉拉要求对完成后的衬板安装情况进行检查确认。
- 对提前磨损或异常磨损开展失效调查及根本原因分析。
- 提供衬板更换判定标准及后续检查周期建议。

供应商须在整个 54 周质保期内及时提供相关技术响应。