RECURRING FAILURES OF ROD MILL LINER BOLTS, ANALYSIS AND SOLUTIONS

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ABSTRACT

Rod mills processing nickel and copper ore experienced recurring failures of liner bolts. In some cases failures became very frequent, requiring constant mill intervention and consequently impacting process stability and operating costs. Investigation related to the causes of bolt failures involved a multidisciplinary approach with the participation of engineering, maintenance and operation. It included the determination of bolt failure mechanisms as well as the assessment of mechanical properties, fabrication quality and handling and installation procedures. In addition, other parameters affecting bolt performance such as mill and liner design, operation parameters and maintenance practices were studied. This paper reports the failure investigation results and proposed solutions for failure prevention.