

عنوان مقاله:

A Method to Determine the Ball Filling, in Miduk Copper Concentrator SAG Mill

محل انتشار:

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خلاصه مقاله:

The aim of this research work was to investigate on the ball filling estimation of Miduk semi-autogenous (SAG) Mill via an utilized method. Miduk copper concentrator is located in Kerman Province, Iran, and its size reduction stage includes one gyratory crusher which feeds one SAG mill (9.75 dia.(m)*3.88 length(m)) following two parallel ball mills (5dia.(m)*7length(m)). After SAG mill, a trommel screen produces two over and under size materials which the oversize part is circulated into SAG mill and undersize reports to hydrocyclone for further process. Ball filling identify was implemented in this work using mill's load sampling and ball abrasion test. These methods could estimate ball filling variation with easy, undeniable, and useful tests. Also, these tests have shown the digression of operating ball filling amount and its manual designed. To make more homogenous load, mill load samplings were carried out from 6 points after whirling the mill via inching motor. Acquired load sampling results were compared with ball abrasion tests. Ball abrasion tests were calculated for 3 different conditions include maximum, average, and minimum ball abrasion. However, the calculated maximum and minimum conditions never occurred. However, these are just for obtaining to ball filling variation in the mill. The results obtained from this work show, the ball filling percentage variation is between 1.2– 3.7% which is lower than mill ball filling percentage, according to the designed conditions (15%). In addition, .acquired load samplings result for mill ball filling was 1.3%

کلمات کلیدی:

Miduk Copper Concentrator, SAG Mill, Ball Filling Percentage

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