



HANOI CERAMIC TILES: Use larger number of smaller and lower density grinding balls

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Use Larger Number of Smaller and Lower Density Grinding Balls in Ball Mill to Reduce Grinding Time

SUMMARY OF THE OPTION

Hanoi Ceramic Tiles is the first manufacturer of high quality wall tiles and floor tiles in Vietnam. The largest electricity consumers at the company are ball mills. The company has five mills with total volume of 142 m³ and average electricity consumption of 365 kWh. The raw materials (clay, feldspar, chemical) are brought to the ball mills in 3 daily batches of 8 hours each. The balls used in the mills are pebbles of dimension 60mm x 80mm. The density of the grinding balls is quite high, ranging from 2.7 kg/dm³ to 2.8 kg/dm³.

During the assessment, the Team identified the possibility of saving electricity used in the mills by reducing the grinding time. This can be achieved by using a bigger number of smaller and lower density balls (2.4 kg/dm³). This measure has been implemented and brought a big saving in electricity consumption. The total weight of the grinding balls is reduced and the time of grinding can be reduced by two hours per batch, which is equivalent to 730 kWh. It is calculated that the 730 kWh reductions in mill input power, will reflect as 788,400 kWh per year (at 360 days per year) for five mills. The saving will be worth US \$ 48,881 annually (around 770 million VND). This measure required no investment and brings GHG emission reduction of 536 tons.

KEY WORDS

Ceramics, Vietnam, Electricity, Ball Mill

FOR MORE INFORMATION

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