TECHNOLOGY OF COMPLEX PROCESSING OF GRANITE OR LIMESTONE SCREENINGS

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PROJECT ESSENCE

The technology involves enrichment ofthe associated sand to meet EN (ASTM) specifications and forced accelerated settling of clay particles of used water, which will reduce the consumption of process water and reduce the volume of construction work on the sludge storage facility. Due to the module's high productivity (up to 150 tons/hour solid base) and a wide range of products, it is possible to produce narrow screening size classes (fractions of 5-10 mm, 2-5 mm, 0.63-2 mm, 0.06-0.63 mm). The 0.06 mm size class can be used as an aggregate in cement production. It is also possible to improve the process water recycling cycle thanks to the modern technology of the Aquacircle mobile sludge storage tank.

APPLICATION AREA

The use of a deep enrichment module as a "green recycling" module to produce high-qualityenriched washed fractions from granite or limestones creening will allow the production of paving stonesor FEM tiles. The technology of accelerated settling of solids from recycled water, which produces a short cycle of its circulation and reduces the use of quarry transport to move the artificial sludge pond, as well as the extraction of enriched sand as a separate by-product

END PRODUCTS

The raw material fraction is 5-10 mm, 2-5 mm, 0.63-2 mm 0.06-0.63 mm and 0-0.06 mm. Process water of accelerated rotation due to the use of peptizers (relevant in the summer period of operation or in areas with reduced water inflow).The technology is based on gravitational processes of interaction between quartz grains and clay particles using the author's installation.

APPLICATION FEATURES

An improved feedstock wetting system allows clay particlesto be separated atthe initialstage of enrichment. The enriched sand is extracted at the discharge of the high-frequency screen (this reduces sand losses due to the pressure washing system). The use of peptizers speeds up the recycled water cycle and reduces clarification time (reducing the length and volume of the sludge storage tank).

INFORMATION FOR INVESTORS

The cost of the semi-mobile module for deep enrichment of the screenings is 70.0-250.0 thousand EUR. The research period is 1 month, the design period is 2 months, the manufacturing period is 4 months, and the payback period is 16 months.

MAIN TECHNICAL AND ECONOMIC CHARACTERISTICS

Solid productivity, t/hPower	30-200
consumption, kW	37-150
Water consumption, cubic	60-600
meters/hourNumber of fractions, pcs.	3-7

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