

ABSTARCT

On the sorting work stations tea powder transfer between machines and tea powder entry to the machines is still done by the operator. Material flow become discontinuous and affect the length of processing time on each machine. Material handling that can transfer tea powder based on the process flow for each quality is required, material handling that suitable is conveyor. Selection of conveyor as material handling based on the accuracy of the production flow, the flow of material become continuous, and transfer of tea powder can be run automatically. Conveyor is designed using the stages design of Nigel Cross rational product concept. Another problem is there is no realtime controlling and monitoring systems thus the decision becomes longer or the flow of information from the plant to the manager level is slower, so it takes a SCADA system for monitoring, controlling, and data acquisition on a plant. The result of this research is conveyorisatation concept between machines with specifications conveyor path length is 2.65 meters, with high-end conveyor which is 1.5 meters high and initial (input) is 0.5 m conveyor, conveyor width is 0.5 m, and the slope of the conveyor is 27 degrees and the design of the SCADA system which is equipped by the reporting system so that all the information and data stored in the database automatically.

Keywords : Conveyor, Nigel Cross, Rational Product Design Method, SCADA, Orthodox Black Tea.