## **ABSTRACT**

PT Perkebunan Nusantara VIII Rancabali is one of the orthodox black tea processing company in Indonesia which produce twelve kinds of black tea to be sold domestically and exported to several countries. The quality of tea produced by this company will certainly affect the price of tea to be sold. In the orthodox black tea processing, enzymatic oxidation process is a process that most determines the quality of the tea leaves that will be generated later, so it takes a strict monitoring of the technical provisions of the process. In this process found irregularities implementation of the technical provisions of enzymatic oxidation process on rolling and enzymatic oxidation room which caused by the specification of material handling equipment.

By using rational product design process is expected to improve existing material handling system be continue and in accordance with the technical provisions of the process, so as to improve the quality of tea leaves to be produced.

Formulation of recommendations compiled based on data processing, data analysis, and discussion with the company that aims to enhance the enzymatic oxidation process. The recommendation given is the specification design of industrial truck especially four-wheel hand truck which is customized with the provisions of the enzymatic oxidation process.

Keywords: Four-wheel hand truck, material handling equipment, Nigel Cross, orthodox black tea, rational product design method.