ABSTRACT

Grinding wheel industry has been established in Thailand manufacturing base in the last five years with only two makers. This industry is an oligopolistic business that has less competition between domestic makers. Eighty percent of metal-concerned industries have to use grinding wheel for shaping and smoothing hard metal work pieces. At present, this business is losing its markets to imported products caused from low quality products and price that are nearly the same as the price of imported products.

What are the significant causes of low quality in domestic made products? How can the correct process errors be corrected? And, how can the process performance and quality of products be improved?

The main target of this study is to answer these three important questions.

Although each maker has his own quality control system, it is just by quality characteristics check at the end of production line. This project study examines the main processes in production line by statistical characteristics check in order to detect the errors before occurring. The main process in this study compose of 4 processes of firing, face-shaving, boring and peripheral process. These processes are concentrated because theirs functions are the wheel shave formatting process.

The analysis in this study uses STATGRAPHICS Plus software to detect the process errors. STATGRAPHICS Plus is package software designed for determining the quality control problems and providing the control chart for line faulty warning.

The results of software analysis in this study perform is only the pilot quality control chart used in order to improve and correct the process before the permanent quality control chart is established. Hopefully, the role of STATGRAPHICS Plus software may become a quality control device in the production line of this industry.