The Analyzer for Testing the Roughness Quality of Surfaces

Kong, Chin leong (School: Xuan Hoa High School)
Liang, Wen Jing (School: Manuel Scorza Torres)

In the past, people used to use static testing in the materials and paper quality measuring. It was too troublesome to operate. QC factory also used sampling test to checked the capability of products. Sampling test fueled uncertainty. The uncertainty was a discouragement to customers. In order to solve these problems. We used system to compare different products' roughness in order to achieve best quality. This system is composed in four components, mechanical part, tele-control technology, sensing technology and terminal data analysis. The aim of mechanical part is remoted and measured friction from the product, and sensor collected data from mechanical part and sent it to the terminal analysis. The result display parameters such as the maximum, minimum, average value and standard deviation of the product. Therefore, users can set a benchmark to compare the products' data and eliminated the one is not fulfilled the criteria. The data that above the benchmark is qualified and vice versa. Be different from traditional quality testing mode, we used dynamic test to test roughness. It could achieve an automated quality testing. We also used comprehensive investigation instead of sample investigation. Our system was easy to operate and at low cost. In addition, the error of the analysis result was less than 1%. The terminal image could be resizable to meet the requirements of people. According to market research, our system had great potential for serving apparel mart and so on. We believed that it will improve quality measuring in general.