Thesis Title	Effect of Process Parameters on Surface Roughness in the Cloth Wheel Polishing of Stainless Steel
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Abstract

The polishing of stainless steel with cloth wheel requires the proper adjustments of polishing factors. If the process is not set up appropriately, there will be an increase in manufacturing time, making the process inefficient. Therefore, the optimum polishing parameters for stainless steel have to be determined for minimizing the cycle time and polished surface roughness. In this research, there are two 2 main steps to be carried out: 1) comparing between blue and violet polishing compound on the surface roughness, and 2) conducting an experiment through the addition of center point to the 2^k design with reference to the processing time and surface roughness. The major polishing parameters considered in this work were motor speed, force and polishing time. The results showed that the polishing time and force were found to be the significant factors. The optimum condition for this process was 64-newton Force and 15-second polishing time. resulting in the surface roughness of 0.0479 micrometers. According to this finding, the reduction of processing time is achievable and is able to be used as a guideline for selecting a suitable condition for the relevant process.

Keywords : Cloth wheel / Optimization / Polishing / Stainless steel / Surface roughness