Investigation on the Effect of Multiple Passes in Plain Waterjet Cleaning of Paint

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ABSTRACT

Paint removal process in automotive coating is widely used in vehicle component recycling industry. The need of utilization and recycling the automotive component without producing secondary pollution from the paint removal process is recently become a major concern globally. Water jet cleaning is a new method for paint removal and getting recognition because of environmental friendly and it is better than mechanical cleaning such as sand blasting, brushing with water, hydropneumatic cleaning, controlled dry sanding, low pressure water projection and low pressure water spray. The present study focuses on the investigation of effect of multiple passes in plain water jet cleaning on paint removal process. A new method of multiple passes treatment is applied in plain water jet cleaning to access its effect on surface roughness and paint removal rate. It was found that, with increasing of number of passes, the surface roughness and paint removal rate is slightly increase. It is also found that the increase in water jet pressure will increase the surface roughness and paint removal rate. This is probably because increasing pressure will leads to more energy to remove the paint. It is found also that the increase in traverse rate increase the surface roughness and decrease paint removal rate. Based on the present study, it is a high prospect to apply multiple passes of paint removal using plain water jet in automotive industry.

KEYWORDS: Paint removal; Waterjet cleaning; Multiple jet passes

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