

Influence of Milling Feed Rate on Surface Roughness of Natural Fiber Composite

Abstract— The influencing of feed rate parameter of milling on natural fiber surface was investigated with constant 1700 rpm spindle speed. In this study, a surface texture-measuring instrument and optical microscope were used as measurement equipments. Ramie fiber composite samples were machined at 2, 4 and 6 mm/min feed rates each. The results showed that the sample machined at 4 mm/min feed rate had the lowest surface roughness value and its surface has a harmonious structure. In addition, a lots of cracks and fractures appeared on the sample surface which machined at 6 mm/min feed rate due to impact of the cutting edges.

Index Terms— natural fiber composite, milling, surface roughness.