

Article Abstract

Title:	Surface roughness prediction model in end milling of Al/SiC _p MMC by carbide tools
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Journal:	<i>International Journal of Engineering, Science and Technology</i> , Vol. 3, No. 6, 2011, pp. 78-87.
Abstract:	The advancement in automation and accuracy of machine tool made it possible to produce high quality industrial products. One of the main perceptions of quality in mechanical products is its physical appearance. One of the most important factors in physical appearance is the surface roughness. A number of research publications addressed this issue of surface roughness measurement and analyses. This research focuses on study and analyses of surface quality improvement in end milling operation of Al/SiC _p metal matrix composite. These materials are selected as they are most widely used in automobile and aerospace industry. This research paper develops an improved mathematical model for surface roughness (Ra) prediction in end milling of Al/SiC _p MMC. The impacts of spindle speed, feed rate, depth of cut and various percentage weight of silicon carbide are studied on surface roughness. The result obtained using Response Surface Methodology (RSM) gives a good prediction of surface roughness when compared with actual surface roughness.
Keywords:	Surface roughness (Ra), Response surface method (RSM), End milling, Metal matrix composites.