Comparative evaluation on milled surface quality of GFRP composites by different end mill tools

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Abstract: Milling is a machining process that used in the production industry to make components to mate with other component in the assembly. The GFRP materials are not generally subjected to machining unless otherwise the perfect mating is required. The extensive and expensive experimental work is necessary to evaluate the cutting process parameters for achieving the preferred machined quality. In this regard, the present work is focused on minimising the machined surface damage. Moreover, the paper presents the comparative analysis and performance of two different mill tools (one is customised the two fluted brazed carbide tipped tool and other is four fluted solid carbide tool). Subsequently, comparative evaluation of two tools was illustrated by the plotting graphs. Finally experimental results were thoroughly analysed by the scanning electron micrographs to study the cutting characteristics of machined glass fibre reinforced plastic (GFRP) composite surface.

Keywords: compression moulding technique; cutting process parameters; end milling tools; GFRP composite laminates; scanning electron microscope; SEM.

Reference to this paper should be made as follows: Prasanth, I.S.N.V.R., Ravishankar, D.V. and Hussain, M.M. (2017) 'Comparative evaluation on milled surface quality of GFRP composites by different end mill tools', *Int. J. Machining and Machinability of Materials*, Vol. 19, No. 5, pp.483–504.

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