Proceedings of the 5th Annual World Conference
of the Society for Industrial and Systems Engineering,
San Francisco, CA, USA
October 13-14, 2016

Analysis of Tool Wear in Machining Process of 'Superalloy X'

S. Domínguez Rueda, I. Escamilla Salazar, and B. González Ortiz

Universidad Autónoma de Nuevo León – Facultad de Ingeniería Mecánica y Eléctrica, Ave. Universidad s/n, Ciudad Universitaria, San Nicolás de los Garza, Nuevo León, México

Corresponding author's Email: silveriorueda@outlook.com

Abstract: Machining processes have been significant improvements in recent years, this due to the development of high-speed machines which allow to carry out different types of works in hard metals and with high productivity and often avoiding other costly manufacturing steps.

From other side, cutting speed machining is a very important factor when carrying out this task. The high cutting speeds generate greater heat in the tool, so this may present a greater wear quickly and thus reaching the end of its lifetime. Most types of tool wear in machining are a result of heat generated in the cutting process. This results from the shear heat generated in the main plane and the interface friction of the tool, which drastically raises the temperature. However, this change intense temperature is located only in a pinpoint area of the face of the tool.

This paper is intended to carry out an analysis of tool wear during machining of superalloy, Alloy X in this case, this with tests in which different parameters, this in order to carry out a study about the tool wear.

Keywords: Milling Process, Tool Wear, Superalloy