



*Proceedings of Iran International Aluminium Conference (IIAC2018)
April 24-25, 2018, Tehran, I.R. Iran*

Investigating the Causes of Wastes in Cam Bearing Part of Tiba Produced by Die Casting and Using the SPC and DOE Method to Reduce Them

Hasan Akbari, Amin Nankali, Mehdi Garousi

Production unit of EGC, Bu Ali Sina, Hamadan, P.O. Box: 6517838695, Iran

Abstract: The purpose of this study is to investigate the causes of waste products in cam bearing part of Tiba produced by die casting method. The effective parameters on production were obtained by the SPC method. In order to achieve the desired result and reduce the percentage of waste products, the DOE method was used. Also, solutions are proposed to reduce each item to achieve optimal production conditions and low waste percentages. The results show that the main causes of increase in the percentage of waste products are warping and different types of porosities. This porosity is a combination of gaseous and shrinkage porosity that can be controlled by decreasing the velocity of Slow Shot and increasing the pressure of intensification phase. On the other hand, the machining process is another major cause of waste in productions, which in this paper some solutions are also presented to reduce it. Some factors such as mold and melting problems are introduced as effective parameters in the waste of part as well.

Keywords: High pressure die casting, Porosity, SPC, Waste percentage, DOE