

Industrial Research Project Title	Reduction of Misrun Defect in Pump Parts Casting
Industrial Research Project Credits	6
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#### Abstract

The purpose of this industrial research is to reduce misrun defect in pump parts casting. The pump parts are made of flake graphite high nickel cast iron namely Ni-Resist type 1 by green sand mold casting. There are 3 main factors that caused a misrun defect; chemical composition, gating system and pouring temperature. The study analyzed 3 possible causes to find out root causes and their solutions in order to reduce defect rate.

This study had randomly checked the chemical compositions of melt metal and compare with standard. The chemical compositions were in standard range in every production lot. Moreover, The defective parts were randomly found in every cavity of casting mold. In summary, the chemical compositions and the gating system are not the main cause of misrun defect. Expectedly, the pouring temperature was a cause of misrun defect. The experiment was designed by increased temperature from 1,520<sup>o</sup>C to 1,530<sup>o</sup>C. It found that the defective products were down from 6.7% in 2013 to 4.3% (35.8% reduction) and not effect to other properties. There was also no rejected part from machining process that caused from casting process.

Keywords: Graphite Flake / Misrun / Ni-Resist Type 1 / Pouring Temperature