

Pakanant Sooksamran 2008: A Study of Heat Transfer of Aluminium Filled Epoxy Resin Mould. Master of Engineering (Mechanical Engineering), Major Field: Mechanical Engineering, Department of Mechanical Engineering. Thesis Advisor: Assistant Professor Chatchapol Chungchoo, Ph.D. 152 pages.

Currently, the development of a aluminium filled epoxy resin mould becomes popular in Thailand. This is because the fast production process and the lower cost comparing with the conventional mould in method. Generally, the aluminium filled epoxy resin has been employed a insert of the mould. However, a gap between insert and mould base cause a thermal contact resistance. Therefore, a main objective for this research was to study the relationship between of the surface roughness and the thermal contact resistance in the mould. The experimental results showed that the variations of the surface roughness do not affect the thermal contact resistance and heat transfer between insert made by aluminium filled epoxy resin and mould base significantly. The results also indicated that the contact coefficient approximately 263.74 and 51.98 W/m²°C for a steel insert case and aluminium filled epoxy resin insert case respectively.

Student's signature

Thesis Advisor's signature

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