

Title : A Study of Heat Conductivity Non-linear Behavior of Friction Materials
Researcher : Mr. Phupoom Puangcharoenchai, Faculty of Engineering, RMUTP
Acting2 Sub.L.T.Songwut Mongkonlerdmanee, Faculty of Engineering, RMUTP
Mr. Supachai Lakkam, Faculty of Engineering, RMUTP
Year : 2015

ABSTRACT

Nowadays, one of the automotive engineering is conductivity of brake pads playing a role in friction coefficient which means safety of customer. Thus thermal properties have been improved using composited materials. This project aims to study the conductivity behavior of 3 different brake pads which are supported by the company, Compact International (1994) Ltd. For experimental works, temperature based on brake condition was simulated from 200 to 400°C and cooled down from 400 to 200°C at 1, 5 and 8 MPa of pressure respectively. By standard JIS D4413, testing condition of pressure was referred. The non-linear of conductivity value are calculated from the temperature under steady state condition. As a result of testing, there are several of parameters effecting on the non-linear conductivity value. The brake pad that is a mix of high-fiber, affects the fluctuation of thermal conductivity. At the same time, lubricant in the brake pad cause the stability of conductivity value in different temperature range at the same pressure. On the other hand, the brake pad mixed hi-copper inspires the narrow range of conductivity value in different pressures at the same temperature. Moreover, the conductivity value as a mention is inversely proportion with the coefficient of kinetic friction.