

전자장비용 웨지락의 열전도 특성에 관한 실험적 연구

이승하[†](넥스원퓨처(주)) · 광규용^{*}(넥스원퓨처(주))**An Experimental Study on the Heat Conduction Characteristics of Wedge Lock for Electronic Device**

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Key Words: Wedge Lock(웨지락), Electronic Device(전자장비), Heat Conduction(열전도)

Abstract : Most military device includes the closed housing for the resistance of environment, passes on heat by conduction only. Wedge lock is a mechanical component to fix the Electronic Module assembled Electronic Device by using sliding mode. It protects the Electronic Module from external vibration and transfers the Electronic Module's heat to outside. Therefore, it is very necessary to research the heating characteristic of Wedge lock on conduction of the Electronic Module. Through our experiment, we confirm its heating characteristic on unit load by using simulation tool that recognizes conductive flow.

열유속 측정을 위한 미세 열유속 센서의 제작과 보정

김범석^{*}(연세대 원) · 김정훈^{*}(연세대 원) · 김용준^{**}(연세대) · 조형희[†](연세대)**Fabrication and Calibration of Micro Heat Flux Sensor for Heat Flux Measurement**

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Key Words: Micro heat flux sensor(미세 열유속센서), Calibration(보정), Convection type calibration system(대류형 검정장치), Sensitivity(민감도)

Abstract : In this study, we carry out measurement of heat flux using the micro-machined layered type heat flux sensors, which are fabricated by means of MEMS technique. The thermopile, 21 pairs of Cu-Ni thermocouples, is used in the heat flux sensor for EMF measurement generated by the temperature difference between hot and cold junctions. We present the experimental procedure to calibrate the correlation between heat flux supplied through the foil heater by power supply and EMF from the thermopile in the machined sensor. The calibration of the machined heat flux sensors is performed in heat flux range of 0.3~5.5 kW/m². As a result, we identify the linear correlation between the heat flux and EMF and present that the sensitivities of this sensor is 343.0 $\mu\text{V}/(\text{W}/\text{cm}^2)$.