

**EFFECT OF RADIATION AROUND CORE/SHIELD CONTACT SPOTS IN VACUUM
INSULATION PANELS**

Jaehyug Lee* and Tae-Ho Song*

* Korea Advanced Institute of Science and Technology, 291 Daehak-ro, Yuseong-gu, Daejeon
34141, Republic of Korea

ABSTRACT. Heat transfer in the core materials of highly-evacuated vacuum insulation panel (VIP) occurs by conduction through the solid structure and radiation through the pores. Radiation shields are often inserted in a VIP to reduce the radiation. The contact resistance between the core material and the shields often plays an important positive role in the VIP performance. Both of conduction and the near-field radiation around the core/shield contact spots are investigated to correctly evaluate the contact resistance. As an example, the contact resistance is evaluated as $2.58 \text{ (W/m}^2\cdot\text{K)}^{-1}$ for a typical glass to aluminum-coated shield contact.