



### TEST CERTIFICATE

REPORT NO : ME - 9/05 DATE: April 12, 2005  
TEST : Thermal Conductivity of insulating material  
STANDARD : ASTM 518 and ISO 8301  
CLIENT NAME : Al-Othman & Al-Salem General Trading & Contracting Co.  
MATERIAL NAME : ALUMTEC (Thickness = 8 mm, Density = 480 g/m<sup>3</sup>)

**Results :**

The insulating material was tested in the Calibration Lab at the Mechanical Engineering Department. The specimens were conditioned at a temperature of 23°C and relative humidity of 50 % for three days. The specimen was tested on Holometrix automated equipment using Q-Lab software. Four specimens of 30 cm × 30 cm were used to determine the thermal conductivity. The specimen was exposed to four different temperatures (30, 40, 50 and 60 °C). The thermal conductivity was found to vary with the temperature from 0.037 to 0.043 W/mK. The accuracy of the measuring instrument is ± 2 to ±5% and the reproducibility is 1%.

**FINDINGS:**

Thermal conductivity varied from 0.037 to 0.043 W/mK for a temperature range of 30 to 60 °C.

Accuracy: ± 2 to ±5%

Reproducibility: ± 1%

The results are plotted showing the variation of the thermal conductivity with surface temperature (Figure 1) and mean surface temperature (Figure 2).

TEST DONE BY

Eng. M.Mujtaba A. Quadri



TEST SUPERVISED BY:

Dr. Bader Al-Shriaan

FOR INQUIRIES PLEASE CONTACT:  
CRETS

Center of Research for Experimental Thermal Sciences  
Tel: 4811188 Ext. 5973, FAX: 4847131