

**PREDICTIONS OF SOUND ISOLATION CHARACTERISTICS  
OF  
PANELSAN PANELS**

**Subject:** This report presents results of predictions of sound isolation characteristics of panels produced by PANELSAN Roof and Wall Systems Inc of Ankara, Turkey by a reputable software.

The study was carried on a grant from PANELSAN Roof and Wall Systems Inc to Middle East Technical University in Ankara under the code number 08-03-02-03-07-01.

**Method:** Air-borne sound isolation characteristics of panels produced by PANELSAN Roof and Wall Systems Inc has been calculated by INSUL v5.5 software and results of calculations are presented in tabular and graphical forms directly obtained from the program. INSUL is the trademark of Marshall Day Acoustics. Both Rw and STC ratings of panels have been determined for different combinations of wall and steel plate thicknesses.

**Results:** Sixteen alternative panel configurations with steel studs 600 mm apart are considered. Table 1 outlines results obtained for all the configurations. Airspace between steel plates are completely filled with rock wool of density  $60 \text{ kg/m}^3$  and of varying thickness. Panelsan uses rocwool of higher density around  $100\text{-}110 \text{ kg/m}^3$  in its line of products. However, it must be noted that the density of  $60 \text{ kg/m}^3$  is the highest value of this parameter employed by INSUL. Original outputs of INSUL for sixteen alternative configurations are listed showing all the analysis parameters and results in the form of graphs and tables in terms of 1/3 octave band center frequencies.

