

## **Absorption coefficient of acoustic coir fibre panel and effects of varying percentage of perforated plates**

### **ABSTRACT**

The effects of perforated plates with different percentage of perforation affecting the sound absorption coefficient of coir fibre acoustic panels were investigated. Two types of perforated plates of 6.93 and 19.24% perforation were combined with the similar coir fibre layer. Acoustic tests for measuring the sound absorption were conducted in the reverberation room according to the ISO 354:2003 standard. The based coir fibre panel showed to possess good sound absorption characteristics from intermediate to high frequency range (800-2000 Hz). Perforated plates (6.93 and 19.24%) with coir fibre panel were found to achieve maximum sound absorption coefficients of 0.77 and 0.63 at 2000 Hz, respectively. As frequency increased to 4000 Hz, the sound absorption coefficient for the higher percentage perforation produced a higher sound absorption coefficient value.