

ACOUSTICS2008/3039

Survey on the insulation performance of acoustic louvres

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Machinery such as compressors, boilers and generators require adequate ventilation and extract. To avoid excessive noise breakout, acoustic louvres are frequently used. These are usually made of tilted hollow metallic blades filled with absorptive materials and perforated at the inside face. This study investigates the important characteristics of common shaped acoustic louvres with regard to sound insulation. First, a market survey on 109 existing acoustic louvres of 24 producers worldwide is made. Second, laboratory measurements of sound insulation on 38 prototypes of 1 m² acoustic louvres are compared. The influence of several parameters are studied such as louvre depth, blade angle, blade shape, blade thickness, blade spacing, kind of absorptive material, perforation degree and edge filling.