KESTREL ACOUSTICS
innovative acoustic design for the built environment
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high performance modular acoustic rooms

Acoustic Systems Modular Music Practice Rooms

A high performance acoustic panel system, principally designed for music practice rooms and recording/ broadcast studios, although the rooms can readily be used for many other purposes. Acoustic Systems is a division of ETS-Lindgren, the world leader for components and systems that measure, shield and control electro-magnetic energy. Acoustic Systems have installed more than 1000 Modular Music Practice Rooms in various educational establishments from elementary schools to universities.

Wall and Roof Panel Construction

The panels would be Acoustic Systems Type AS-504, 100mm thick with 16g outer surface, 22g inner perforated surface and an acoustic core comprising 75mm thick mineral fibre and 25mm thick plasterboard. The panels would be seated in a floor channel and joined with 16g H-joiners. An inverted top channel locks the walls together and provides the seat for the roof panels, which are joined in a similar manner to the walls. The roof is finished with a perimeter trim. The surfaces would be powder coat painted Light Grey.

Doors

High performance room systems are provided with 50mm thick steel doors fitted with 500mm wide x 1500mm high double glazed vision panels, utilising 6mm laminated safety glass. The doors are factory assembled to ensure that the acoustic seal is continuous and not broken at each mortise point. The doors will have a minimum rating of STC43 when tested in accordance with ASTM E90 and ASTM E413.

Internal Finishes

This would be dependent on room use. Standard music practice rooms would have perforated internal surfaces. A 'live' room, however, may require some acoustically 'hard' surfaces, whilst a control room may require a higher degree of sound absorption. If an acoustically 'hard' surface were required this would be pre-finished plain steel. Higher levels of sound absorption and improved aesthetics can be achieved using fabric finished panels.

Windows

These would be of double glazed design, utilising laminated panes pre-fitted into the acoustic panels.

Ventilation

This would comprise a simple forced extract arrangement, drawing air and discharging it back into the surrounding host room space.

Acoustic Performance

Laboratory test data based on the procedures outlined in ASTM E596 and conducted by a laboratory certified by the US National Institute of Standards and Technology, Voluntary Laboratory Accreditation Program for ASTM E596 Procedures.

Frequency (Hz)	125	250	500	1k	2k	4k	8k
NR Host Room to Modular MPR	21	29	38	43	43	48	40
NR Modular MPR to Host Room	23	35	45	46	47	51	44
NR Modular MPR to Modular MPR	32	51	66	73	74	82	58

Noise introduced into the MPR by self-contained mechanical or electrical systems will not exceed NC20. The MPR will be designed so that the proportion of solid to perforated internal surfaces will provide an internal reverberation time of 0.47 seconds.