

27 January 2015

640.10969 SHEET 1 20150127.docx

SHEET 1

ACOUSTIC OPINION
Prepared for AR Building Solutions Pty Ltd
MEGABOARD Partition Systems

SLR Consulting Australia Pty Ltd has been retained to provide acoustical opinions for wall systems comprising "Megaboard" panels. The acoustical opinions presented below are based on the physical characteristic provided by AR Building Solutions Pty Ltd, including measured material density and Young's Modulus.

Wall Description / System	Thickness	Density	Acoustical Rating, dB		
			R _w	C _{tr}	R _w + C _{tr}
Megaboard – single panel	6 mm	5.8 kg/m ²	25	-4	21
Megaboard – single panel	8 mm	7.7 kg/m ²	27	-4	23
Megaboard – single panel	10 mm	9.6 kg/m ²	28	-3	25

NOTES

- The opinions are based on the provided physical characteristics of the Megaboard product, single panel (and double panel where relevant) acoustic partition modelling theory, and on published laboratory tests carried out on similar products.
- The R_w (Weighted Sound Reduction Index) is a single number index used to rate the sound insulation of a partition, against noises such as speech, which do not have significant low frequency components. The index given is the expected performance in a laboratory which tests to AS1191 "Acoustics – Method for Laboratory Measurement of the Airborne Sound Transmission Loss of Building Partitions", and determined according to the procedure in AS/NZS ISO 717.1 "Acoustics - Rating of Sound Insulation Buildings and of Building Elements – Airborne Sound Insulation". The rating obtained on a building site, called the Weighted Apparent Sound Reduction Index (R'_w) may differ from the laboratory results.
- The C_{tr} is an adaptation term which, when applied to the R_w value, results in a single number index which provides a more reliable indicator of the ability of the partition to isolate against traffic noise, or noise containing low frequency components. In several countries the R_w combined with the C_{tr} is simplified to a single number rating, RA,2. That is to say, RA,2 = R_w + C_{tr}. Refer also to AS/NZS ISO 717.1 "Acoustics - Rating of Sound Insulation Buildings and of Building Elements – Airborne Sound Insulation".
- The expected tolerance is ±2dB for R_w and ±3dB for R_w + C_{tr}. This allows for variations in the test method, the difference between laboratories and the accuracy of the estimating techniques.
- The opinions are based on the wall being of good construction and assume the face joints finished, the perimeters acoustically caulked and that there are no acoustical weaknesses in the wall etc.

Prepared by:



Jim Antonopoulos BAppSc MAAS
 Principal – Acoustics, SLR Consulting Australia Pty Ltd