SOUND RATING

Hume Doors & Timber has extensively sound tested its comprehensive range of doors. Sound Transmission Class (STC) tested to ASTM E 413-87 and Acoustic Weighted Reduction (Rw) tested to ISO 717-1.

Look out for our sound rating symbol. To achieve the rating doors must be installed with seals of equivalent RW/STC and must be installed as per the seal manufactures recommendations. Refer to our website for further information; www.humedoors.com.au

SOUND TESTING

Summary of the measurement of airborne sound insulation of building elements

INSTALLATION OF TEST SAMPLE

The wall under test is installed in the opening between two reverberation chambers - chambers C and A for a wall, chambers A and B for a floor. These chambers are vibration isolated from each other which results in a structural discontinuity at the middle of the test opening. This gap is covered over by a collar, which seals the gap and provides for ease of fixing of samples. The wall sample is constructed by the client following the techniques normally used in practice for that type of wall or floor/ceiling, and is sealed into the test opening with perimeter seals of acoustic sealant.

METHOD

The measured transmission loss values are obtained in accordance with the recommendations of ISO standard 10140-2:2010(E) "Laboratory measurement of sound insulation of building elements- Part 2: Measurement of airborne sound insulation"

Essentially the transmission loss of a building element is measured by generating sound on one side of the building element (the source chamber) and measuring how much sound is transmitted into the receiving chamber. In the source chamber noise is radiated from a loudspeaker. Time and space averaged sound pressure levels in both the source and receiving chambers are measured by using a rotating boom microphone, and the average sound pressure levels are obtained by sampling the sound pressure levels as the boom rotates through one cycle (taking 64 seconds). This is repeated for a different loudspeaker position in the source chamber.
Measurements of the background noise levels in the receiving chamber are also made. Then, should it prove necessary, the transmitted noise levels are corrected for the influence of background noise as prescribed in the standard.
The sound absorption of the receiving chamber is also determined by measuring the reverberation times (IS0-354:2003(E) "Measurement of Sound Absorption in a Reverberation Room").

RESULTS

To achieve results in table below seals of equal or equivalent RW/STC must be installed as per the seal manufactures recommendations

MODEL TESTED	RANGE COVERED	STC	RW	R VALUE
37 mm Poly Styrene EPS Door (Expanded Poly Styrene)	Flush Hollow core/Accent/Strata/Moulded Panel/Trend/XF/Camden	25	25	H
35 mm Hollow core (3mm skin)	Flush Hollow core/Accent/Strata/Moulded Panel/Trend/XF/Camden	25	25	L
37 mm Hollow Core (4.75mm skin)	Flush Hollow core, Deluxe Accent,	29	30	L
35 mm Hollow Core (6mm skins)	Flush Hollow core, Linear internal/Sorrento/Accent Premium	27	27	M
35 mm Solid Laminated Door	Flush Solid Core Door/ Humecraft/STPC/SCX1	29	29	H
38 mm Solid Laminated Door	Flush Solid Core Door/Linear Entrance/Brunswick/Vaucluse/Vaucluse Premier/Regency/STPC/SCX1	29	30	H
38 mm Solid Laminated Door Glazed Door	Flush Solid Core Door/Verve/Newington/Nexus/Regency glazed/Vaucluse Premier glazed/Carringbush/Solid XF	31	31	M
40mm Solid Engineered Door Glazed	Savoy/Illusion/Joinery/Lincoln	30	29	M
45mm Solid Laminated Door (6mm skins)	All Primed Laminated Door Models	32	32	H
42mm Laminated Steel clad door (0.9 thick steel Both sides)	Solid doors with steel cladding.	33	33	VH
Weatherguard Entry frame	Weatherguard Entry Frame	31	31	H
Weatherguard Entry frame with timber barrier in sill	Weatherguard Entry frame with timber barrier in sill	32	32	H

ACOUSTIC DOOR INFORMATION

STC = Sound Transmission Class tested to ASTM E 413-87
Rw = Acoustic Weighted Reduction tested to ISO 717-1
R Value = Indicative insulation value (VH = Very High, H = High, M = Medium, L = low)