**Our Testing**

Bildspec Operable Walls have recently performed testing on its suite of operable walls with the aim of determining what acoustic rating could be achieved from its frames, seals, insulation types, wall materials and densities, and overall construction methods.  This testing was carried out in February 2020 at CSIRO’s acoustic testing facilities in Clayton, Victoria.  Testing was in accordance with AS 1191

Through consultation with PKA Acoustic Consultants and using the combined knowledge of Bildspec’s staff (which equates to 100+ years of operable wall experience), Bildspec has been able to achieve some very strong results at the CSIRO. Testing in accordance with AS1191 requires the test wall to be opened and closed 10 times without intervention, to the seals or components before the test. This stringent form of test means the wall will perform better in the real world, compared to our competitors walls. Through many tests and trials we are now able to provide walls that are rated to 45Rw, 47Rw, 49Rw and 52Rw, in accordance to AS1191, all out of our 100 series walls. (Please click on this link to view our test reports)

Bildspec have worked closely with PKA Acoustic Consulting in the R&D work that has gone into the construction of our operable walls.  PKA Acoustic Consulting commenced operation,

as Peter R Knowland & Associates, in 1968. From then until the present, the firm has handled well over 8000 acoustic projects spanning a wide spectrum of the boundaries of acoustic consulting.

The skills of this practice are widespread extending from domestic air conditioning to industrial noise, environmental noise control and complex vibration isolation solutions.

**Acoustic Function**

Operable walls main purpose is to reduce sound transmission and increase sound absorption.  Operable walls are able to reflect some, but not all, of the sound waves that hit their surface.  Others enter the inner part of the operable wall, and again, some of these, but not all, are absorbed by the material of the partition.  Therefore, through both sound reflection and sound absorption, operable walls are able to limit the amount of sound waves which are transmitted from one side of the wall to the other side.

In Australia, we use the Weighted Sound Reduction Index (Rw) to demonstrate the acoustic performance of an operable wall in a laboratory setting.  This is a composite rating of sound reduction at frequencies from 100 Hertz (Hz) to 5000 Hz, when compared to an Australian Standard curve.

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| **Acoustic Rating Rw** | **Description** |
| 59 | Cannot hear very loud noise |
| 53 | Cannot hear very loud talking |
| 50 | Cannot hear loud talking |
| 48 | Can barely hear some loud talking |
| 45 | Strain to hear loud talking |
| 42 | Can hear loud talking as a murmur |
| 35 | Can hear loud talking, but not understand |
| 30 | Can hear loud speech plainly |
| 25 | Can hear normal conversation easily |

Actual acoustic attenuation achieved from operable walls tend to be lower in real world on-site installations, compared to what is achieved in a laboratory.  This is because Laboratories are constructed specifically for sound reduction purposes i.e. Thick concrete floors tend to be more level, thick concrete walls tend to be plumb and joints are sealed more heavily.  On site, sound can escape through the ceiling, carpets, vents, ducts and other flanking paths etc.  We therefore recommend to our customers that they engage an independent acoustician at the design stage for advice on of their new builds, when sound control is critical.