

Understanding noise

Independent testing



Acoustic Curtain A



Acoustic Curtain B



Acoustic Sheeting

Acoustic performance: independently proven

Powerclad Sound Barrier has been independently tested to BS EN ISO 10140-2:2010, the International Standard for Measurement of Airborne Sound Insulation of Building Elements. Tests were conducted by the Acoustic Testing Laboratory, College of Science and Technology, University of Salford Manchester.

The tests evaluated the acoustic performance of Powerclad Sound Barrier, two popular acoustic curtains and an acoustic insulated sheeting material. All the acoustic barrier materials were tested in a controlled, like-for-like installation setting.

The testing suite was set up to reflect as closely as possible real-life installation and the materials as they would be used in normal situations. The acoustic barriers were installed in an aperture measuring 2400mm x 3600mm.

Samples:

- 2 sheets of Powerclad Sound Barrier sheeting, standard overlap
- 6 panels of Powerclad Sound Barrier fencing, standard overlap
- 6 panels of Acoustic Curtain A, standard overlap
- 6 panels of Acoustic Curtain B, standard overlap
- 2 sheets of Acoustic Insulated Sheeting, standard overlap



Product	Acoustic performance sound reduction BS EN ISO 717-1	Weight	Tensile strength	Flame retardancy	Size
Powerclad Sound Barrier Sheeting	16 dB	1.6 kg/m ²	MD 1900 N/50mm XD 1700 N/50mm	BS 476 part 12C	2.0 x 3.5 2.2 x 10
Powerclad Sound Barrier Fencing	14 dB	3.9 kg	MD 1900 N/50mm XD 1700 N/50mm	BS 476 part 12C	2.0 x 1.2
Acoustic Curtain A	12 dB	6.00 kg per panel	NA	DIN 4102. B1	2.0 x 1.2
Acoustic Curtain B	12 dB	5.7 kg per panel	NA	M2 / B1 / BS / B-s2-d0 / NFPA701	2.05 x 1.25
Acoustic Insulated Sheeting	10 dB	600gsm 1.44 per 2.0 x 1.2m	750 N/50mm	DIN 4102, B1	2.00 x 10.70m 2.25 x 10.15m

Site safety

Powerclad Sound Barrier is significantly lighter – approximately 40% – than acoustic curtains, causing less strain on the supporting structure under normal and adverse weather conditions.

Powerclad Sound Barrier is easy to deliver and install on site, providing effective noise, temperature and rain protection.

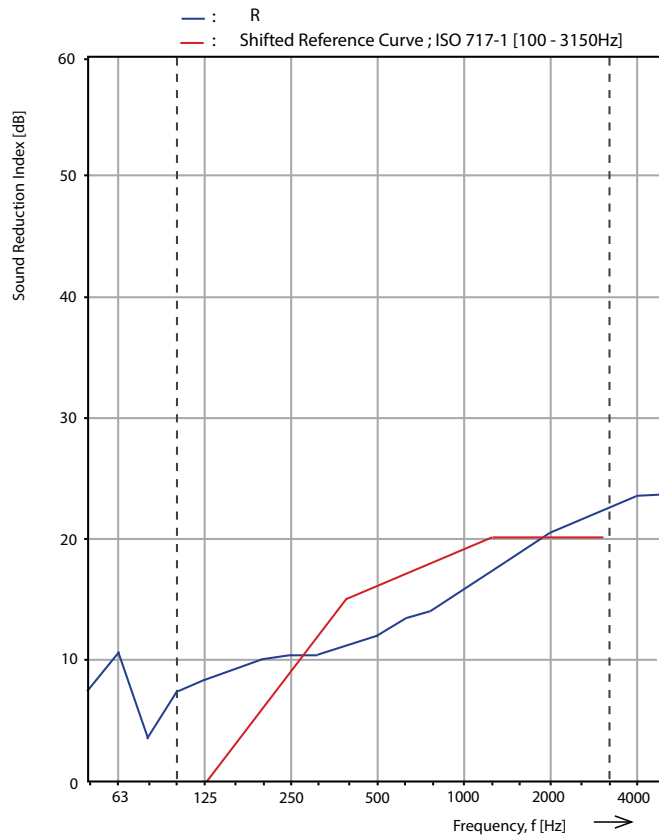


The superior flame retardancy offered by Powerclad Sound Barrier, which is tested to BS 475 Part 12C (Fire tests on building materials and structures; method of test for ignitability of products by direct flame impingement), surpasses other grades, such as Euroclass E and M2.

Proven noise reduction

Genuine performance comparison

BS EN ISO 10140-2 : 2010 Sound Reduction Index



Powerclad Sound Barrier Sheeting Results

Powerclad
Sound Barrier Sheeting

Frequency f [Hz]	R 1/3 octave [dB]
50	7.4
63	10.6
80	3.3
100	7.3
125	8.3
160	9.2
200	9.9
20	10.3
315	10.4
400	11.1
500	11.8
630	13.3
800	14.1
1000	15.6
1250	17.3
1600	18.7
2000	20.3
2500	21.5
3150	22.5
4000	23.3
5000	23.5

$R_w(C;Ctr) = 16(0; -2)$ dB

Powerclad
Sound Barrier Fencing

Frequency f [Hz]	R 1/3 octave [dB]
50	7.2
63	8.9
80	2.9
100	7.1
125	8.0
160	8.3
200	9.1
20	9.9
315	10.1
400	10.6
500	10.9
630	12.1
800	12.7
1000	14.0
1250	15.1
1600	15.4
2000	15.9
2500	17.4
3150	18.8
4000	19.9
5000	20.3

$R_w(C;Ctr) = 14(0; -1)$ dB

Acoustic
Curtain A

Frequency f [Hz]	R 1/3 octave [dB]
50	7.0
63	9.0
80	2.4
100	6.0
125	7.6
160	7.7
200	8.2
20	9.0
315	8.5
400	8.6
500	8.3
630	9.8
800	11.5
1000	12.1
1250	12.3
1600	12.6
2000	12.9
2500	13.8
3150	14.7
4000	16.2
5000	16.7

$R_w(C;Ctr) = 12(0; -1)$ dB

Acoustic
Curtain B

Frequency f [Hz]	R 1/3 octave [dB]
50	7.8
63	8.5
80	2.3
100	6.2
125	7.1
160	7.2
200	8.1
20	8.8
315	8.9
400	9.3
500	9.7
630	10.7
800	10.4
1000	10.5
1250	11.0
1600	11.5
2000	12.5
2500	13.7
3150	14.8
4000	15.9
5000	16.1

$R_w(C;Ctr) = 12(-1; -2)$ dB

Acoustic Insulated
Sheeting

Frequency f [Hz]	R 1/3 octave [dB]
50	5.2
63	8.2
80	0.6
100	3.9
125	5.6
160	6.3
200	6.4
20	6.7
315	6.2
400	6.8
500	7.2
630	8.2
800	8.6
1000	9.8
1250	10.5
1600	11.3
2000	12.3
2500	13.7
3150	15.0
4000	16.4
5000	16.9

$R_w(C;Ctr) = 10(0; -1)$ dB

Test results to BS EN ISO 717-1. Tested at University of Salford Manchester, 2016.
International Standard Method for Measurement of Airborne Sound Insulation of Building Elements BS EN ISO 10140-2 : 2010