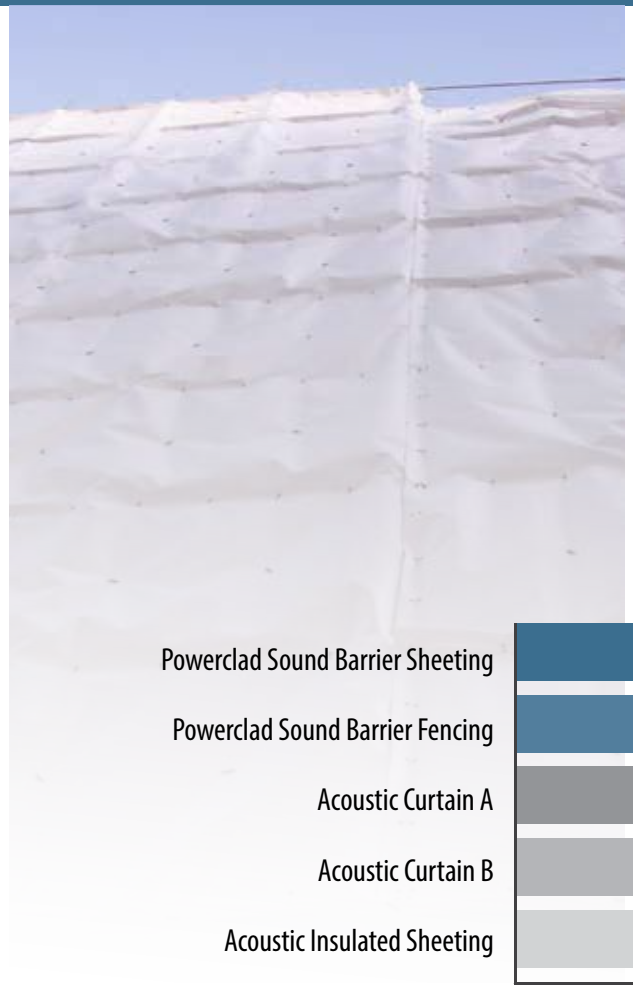
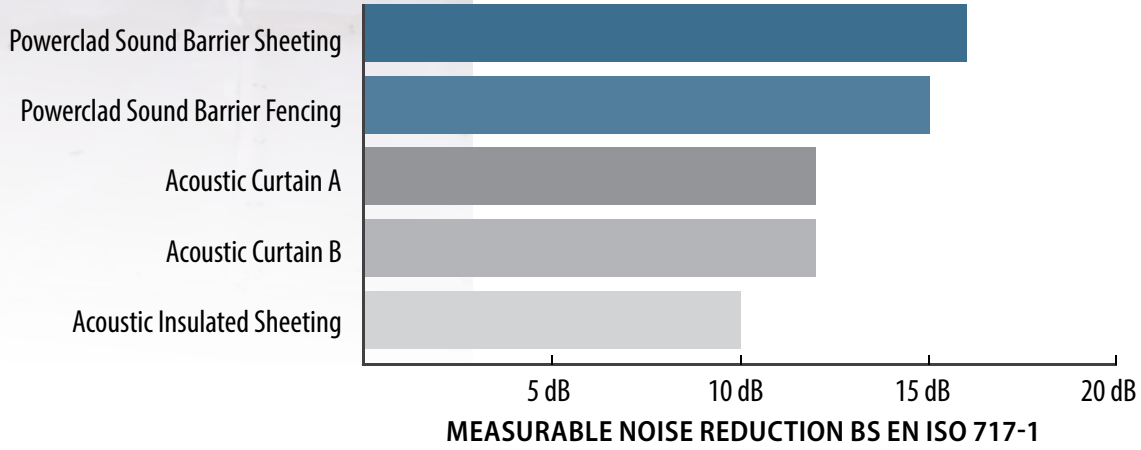
Technical expertise and innovation

The noise control solution



An innovative, effective noise-controlling material

- Reinforced PVC with an acoustic foam insulate layer
- Waterproof outer layer for weather protection
- Flame retardant
- Excellent heat retention
- Independently tested for acoustic performance to BS EN ISO 717-1



MEASURABLE NOISE REDUCTION BS EN ISO 717-1

Product Data

Weight	1600 gsm
Tensile strength	MD 1900 N/50mm XD 1700 N/50mm
Eyelets strength	900 newtons
Flame retardant	DIN 4102, B1
Acoustic performance	14–16 dB reduction
Sizes	2.0 x 1.2 m 2.0 x 3.5 m 2.2 x 10 m

COMPLIES to BS 7955:1999 – Containment nets and sheets for construction works. Specification for performance and test methods.

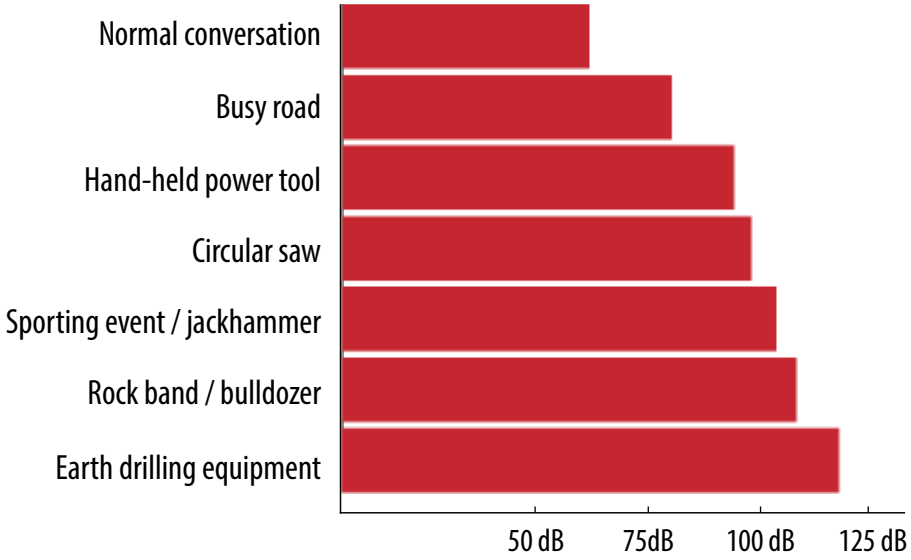
POWERCLAD®

Sound Barrier

Sound levels

Noise is measured in decibels (dB), a logarithmic unit that expresses the ratio of the intensity and pressure of sound.

Normally, the human ear can hear sounds from 0 dB to 140 dB. Above 80 dB, hearing damage can occur depending on the length of exposure; sounds above 120 dB can be painful as well as dangerously damaging.



Noise reduction

How we perceive changes in loudness is a subjective one that does not relate in a linear way to the actual increase or decrease in decibels.

INTENSITY CHANGE	SOUND PERCEPTION
± 1-3 dB	No change noticed
± 5-6 dB	Some change noticed but not significant
+10 dB - 10 dB	Sound perceived as twice as loud Sound perceived as reduced by 50%
+ 20 dB - 20 dB	Sound perceived as significantly louder Sound perceived as significantly quieter

Noise attenuation is achieved by an acoustic barrier material that both blocks and absorbs the noise. Installing the barrier as close as possible to the source of the noise maximises the sheltered area. In all cases, the reduction must be at least 10 dB to be perceived as making a significant difference to the level of noise.

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

University of Salford MANCHESTER

POWERCLAD®

Sound Barrier

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	DIN 4102, B1	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	DIN 4102, B1	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

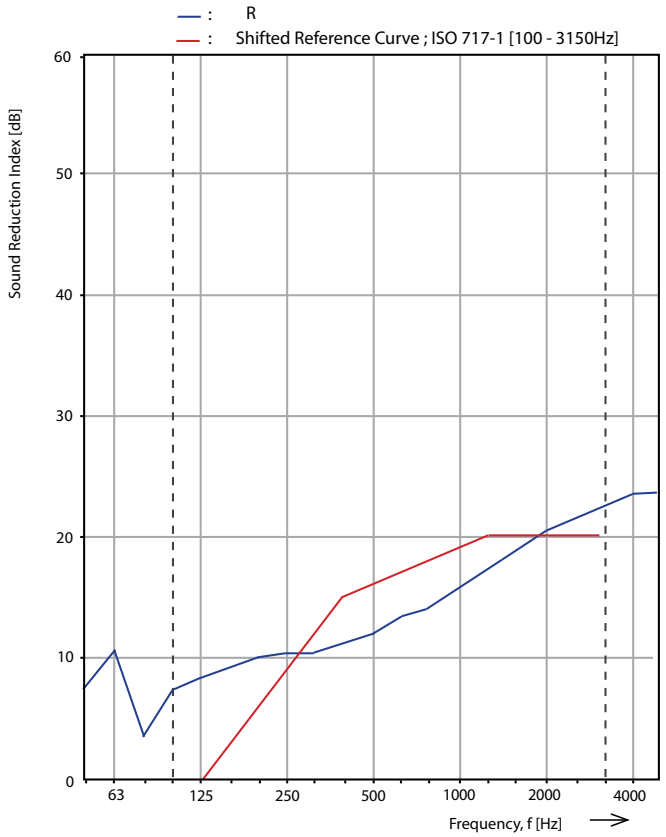
Site safety

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.

Proven noise reduction

Genuine performance comparison

BS EN ISO 10140-2 : 2010
Sound Reduction Index



Powerclad Sound Barrier Sheeting Results

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 Sheeting

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