

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.

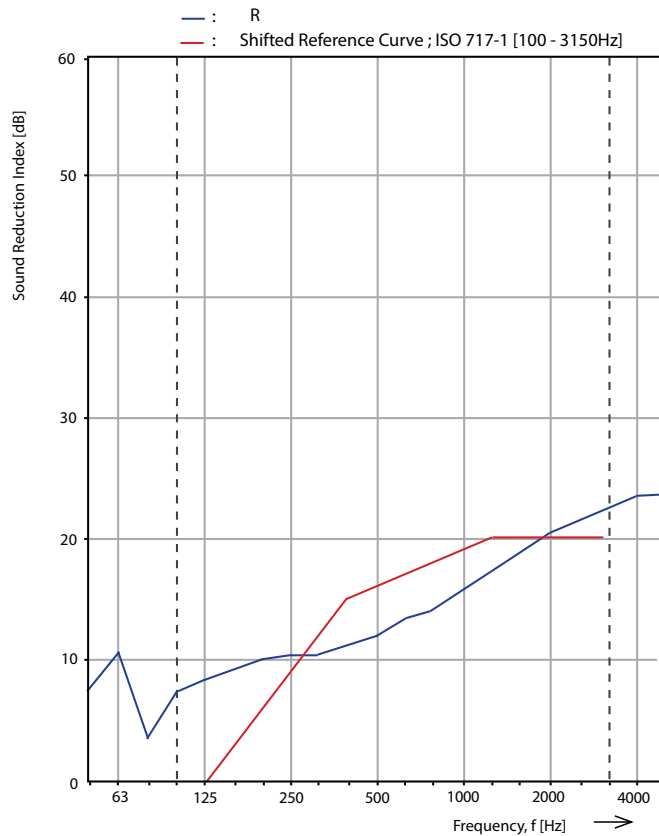


The superior flame retardancy offered by Powerclad Sound Barrier, which is tested to BS 475 Part 12C (Fire tests on building materials and structures; method of test for ignitability of products by direct flame impingement), surpasses other grades, such as Euroclass E and M2.

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