

Acoustic Screens

Product and Technical Data



WAKEFIELDACOUSTICS
NOISE CONTROL TECHNOLOGY

INNOVATION AND EXPERTISE IN INDUSTRIAL, COMMERCIAL AND ENVIRONMENTAL NOISE CONTROL SOLUTIONS

Wakefield Acoustics specialises in the design and fabrication of an extensive range of noise control technologies. Since our formation in 1980, the company has developed a wide range of solutions for both industrial and commercial applications and has gone from strength to strength, supplying to many blue chip clients as the requirement for expertise in noise control technologies continues to increase worldwide.

Acoustic screens and barriers are utilised to provide effective sound reduction in a variety of environmental and industrial applications. In many industrial applications, it may be impractical to fully enclose a noise source due to maintenance or technical considerations. For environmental noise, an acoustic screen can often provide an effective solution to acoustic issues, whilst still providing good air movement for plant and equipment.

Products are fabricated in our modern 40,000 sq. ft. facility in West Yorkshire, and we are accredited to ISO9001:2015, ISO14001:2015 and BS OHSAS18001:2007 hence ensuring our products are fabricated to the highest levels of quality, with health and safety and environmental compliance being at the heart of our operations.

ACOUSTIC PERFORMANCE

To ensure a quality installation, and to guarantee a noise reduction solution, our range of acoustic panels has been independently tested at Salford University. Tests have been undertaken in accordance with BS EN ISO 10140-2:2010 'International Standard Method for Measurement of Airborne Sound Insulation of Building Elements' to determine sound reduction indices for our panel systems.

The overall screen performance is determined dependent upon the source noise frequency spectrum and the position of the screen in relation to the noise source and noise sensitive receptor.

Our range of acoustic screens offers enhanced performance and an effective noise reduction solution in applications ranging from mechanical plant, industrial and manufacturing sites, infrastructure, oil and gas and utilities.



TECHNICAL SPECIFICATION

Acoustic screens are formed from a series of acoustic panels to form a vertical barrier to reduce direct noise transmission. Though the panels forming the screens can offer a noise reduction of up to 50dB Rw, in practice the performance of an acoustic screen is normally limited to around 15-20dB due to noise passing over the barrier. Wakefield Acoustics can undertake detailed calculations to assist in the design of the acoustic screen, ensuring project specification requirements are achieved

Wakefield Acoustics' acoustic screens are available with panel thicknesses of 50mm, 75mm and 100mm as standard, though thicker panels can be designed for specific applications where a higher level of noise reduction or increased absorption is a necessity.

Acoustic screens can be manufactured from a variety of materials including pre-galvanised sheet steel, pre-coated / coloured steel, stainless steel or aluminium. The outer panel casing is formed from a folded steel tray, which fully encapsulates a layer of absorptive acoustic media (mineral wool) and sound deadening layers.

The acoustic media is faced with a glass fibre scrim as standard and protected by perforated steel sheet.

Acoustic insulation materials are odourless, rot proof, non-hygroscopic, do not sustain vermin and will not encourage the growth of fungi, mould or bacteria.

Wakefield Acoustics offer several types of acoustic screen construction dependant on application and structural requirements.

Our range of acoustic screens are designed and manufactured to meet both noise reduction specifications and client specific access and maintenance requirements.



OPTIONS

To meet client and application specific requirements we offer a wide range of optional features including;

Construction

- + Panel to panel bolted construction - often used for smaller screens
- + Larger screens, typically used on site boundaries or to surround multiple processes, can be constructed from intermediate panels mounted either into a framework or supported by vertical posts / columns offering structural rigidity. Where applicable, support steelwork can be CE marked and fabricated to the requirements of BS EN 1090-1
- + Where airflow paths need to be incorporated to suit plant requirements, screens can accommodate acoustic louvre sections or ventilation apertures as required

Access

- + Customer access requirements are considered during the design of acoustic screens
- + Single and double leaf hinged and sliding doors for personal access
- + Hinged access hatches and lift off panels for regular maintainance access
- + Fully demountable construction for major maintainance access

Ventilation

- + If screening off an enclosed space with machinery inside, fan assisted ventilation can be incorporated to provide cooling airflow and prevent overheating.
- + Air inlet and outlet apertures are suitably attenuated so as not to affect overall acoustic performance of the installation
- + Acoustic louvres, can be provided where necessary to provide natural ventilation.

Vision Panels

- + Viewing panels are typically manufactured from laminated safety glass housed in a satin anodised aluminium frame.
- + Options for wired glass, Perspex and polycarbonate windows are available on request.

Finish

- + A range of polyester powder coated and wet paint spray paint finishes are available in all standard RAL and BS4800 colours.
- + Alternatively our acoustic screens can be manufactured in stainless steel or plastic coated steel.
- + Support steelwork can be painted to match the acoustic panels, or hot-dip galvanised to BS EN ISO 1461

Installation

- + In addition to our design and manufacture Wakefield Acoustics can provide a professional and skilled installation service compliant relevant and current health and safety standards. Our installation engineers are highly qualified; hold CSCS cards along with other application specific safety standard certification.

Panel Type WA-ACP-A50/75/100

Acoustic Panel

Specification: Acoustic Panel System: Panels supported with integrated steelwork posts or columns.



Panel Acoustic Performance Sound Reduction Index to ISO 10140-2:2010

Acoustic Panel		Sound Reduction (dB) at Octave Band Centre Frequency (Hz)								Rw (dB)
Depth	Product Code	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
50mm	WA-ACP-A50	14	19	23	32	43	50	50	50	36
75mm	WA-ACP-A75	14	19	24	36	46	50	50	50	37
100mm	WA-ACP-A100	15	20	25	39	48	50	50	50	39
100mm	WA-ACP-A100P	16	21	30	43	49	50	50	50	42
100mm	WA-ACP-A100S	17	23	35	50	50	50	50	50	44



Options Available

- + Paint finish
- + Access Doors
- + Vision Panels
- + Ventilation Apertures
- + Access Panels

Specification Example: Acoustic screen formed to Wakefield Acoustics' panel type WA-ACP-A75. System to be powder coated to RAL.... Screen formed with 'x' no. personnel access doors.

Panel Type WA-ACP-B50/75/100

Acoustic Panel

Specification: Acoustic Panel System: Panels supported with integrated steelwork posts or columns.



Panel Acoustic Performance Sound Reduction Index to ISO 10140-2:2010

Acoustic Panel		Sound Reduction (dB) at Octave Band Centre Frequency (Hz)								Rw (dB)
Depth	Product Code	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
50mm	WA-ACP-B50	16	20	26	35	44	50	50	50	38
75mm	WA-ACP-B75	16	20	27	39	47	50	50	50	40
100mm	WA-ACP-B100	17	20	28	42	50	50	50	50	41
100mm	WA-ACP-B100P	18	20	33	46	50	50	50	50	43
100mm	WA-ACP-B100S	18	19	34	45	50	50	50	50	43



Options Available

- + Paint finish
- + Access Doors
- + Vision Panels
- + Ventilation Apertures
- + Access Panels

Specification Example: Acoustic screen formed to Wakefield Acoustics' panel type WA-ACP-B75. System to be powder coated to RAL.... Screen formed with 'x' no. personnel access doors.

Panel Type WA-ACP-C75/100/150

Acoustic Panel

Specification: Acoustic Panel System: Panels supported with integrated steelwork posts or columns.



Panel Acoustic Performance Sound Reduction Index to ISO 10140-2:2010

Acoustic Panel		Sound Reduction (dB) at Octave Band Centre Frequency (Hz)								Rw (dB)
Depth	Product Code	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
75mm	WA-ACP-C75	16	25	29	41	50	50	50	50	43
100mm	WA-ACP-C100	17	24	31	44	50	50	50	50	44
100mm	WA-ACP-C100P	18	23	35	48	50	50	50	50	47
100mm	WA-ACP-C100S	18	23	37	47	50	50	50	50	46
150mm	WA-ACP-C150	19	24	36	46	50	50	50	50	47



Options Available

- + Paint finish
- + Access Doors
- + Vision Panels
- + Ventilation Apertures
- + Access Panels

Specification Example: Acoustic screen formed to Wakefield Acoustics' panel type WA-ACP-C75. System to be powder coated to RAL.... Screen formed with 'x' no. personnel access doors.

Panel Type WA-ACP-D75/100/150

Acoustic Panel

Specification: Acoustic Panel System: Panels supported with integrated steelwork posts or columns.



Panel Acoustic Performance Sound Reduction Index to ISO 10140-2:2010

Acoustic Panel		Sound Reduction (dB) at Octave Band Centre Frequency (Hz)								Rw (dB)
Depth	Product Code	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
75mm	WA-ACP-D75	18	25	33	41	48	50	50	50	44
100mm	WA-ACP-D100	18	25	35	44	49	50	50	50	45
100mm	WA-ACP-D100P	18	25	40	48	50	50	50	50	48
100mm	WA-ACP-D100S	19	25	41	48	50	50	50	50	48
150mm	WA-ACP-D150	19	25	40	46	50	50	50	50	47



Options Available

- + Paint finish
- + Access Doors
- + Vision Panels
- + Ventilation Apertures
- + Access Panels

Specification Example: Acoustic screen formed to Wakefield Acoustics' panel type WA-ACP-D75. System to be powder coated to RAL.... Screen formed with 'x' no. personnel access doors.



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