

# 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.



Acoustic screen



External plant acoustic barrier



Chiller acoustic screen

## 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.



Acoustic screen installation

## 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 maintenance access
- ✦ Fully demountable construction for major maintenance 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.



**WAKEFIELDACOUSTICS**  
**NOISE CONTROL TECHNOLOGY**

Flush Mills, Westgate, Heckmondwike, WF16 0EN  
Tel: +44 (0) 1924 418 940 Fax: +44 (0) 1924 418 950  
E:noise@wakefieldacoustics.co.uk

[www.wakefieldacoustics.co.uk](http://www.wakefieldacoustics.co.uk)