

STANDARD SPECIFICATION—ACOUSTIC PANELS

Materials and Construction

Casing

Acoustic panels are of a double-skin type construction, having an overall thickness of either 50mm, 75mm or 100mm. The outer skin is from 1.2mm thick pre-galvanised mild steel sheet and the inner skin from 22 swg flattened expanded metal retaining the acoustic media. Internal stiffeners of 18 swg galvanised mild steel on a minimum of 550mm centres are fitted internally as required.

The standard finish is galvanised mild steel for the solid sheet outer and the perforated sheet inner faces.

Alternative finishes include polyester powder paint to any BS or RAL Colour range or PVC Plastisol to British Steel and BS Colour ranges.

Material Options – aluminium or stainless steel.

Acoustic media

The acoustic fill shall be inorganic, non-hygroscopic, flame, moisture and vermin proof mineral wool or glass fibre, with a minimum density of 45kg/m³ and packed under at least 5% compression to avoid settling.

Where the infill can be contaminated or the environment is water or oil saturated then the acoustic fill is further protected by enveloping in an impervious membrane such as Melinex. This treatment is also recommended for Clean Room or Sterile applications.

Connections

The panels shall be connected with 18 swg minimum mild steel sections, rolled angle or channel sections, dependent on site requirements. The panels shall locate into their joiners or securing sections on close cell neoprene sponge and mastic. The section design and sealing arrangement shall be such that optimum acoustic performance is achieved from the erected acoustic structure.

Penetrations for pipework, cables and ducts, etc, will be made where possible during manufacture, extract acoustic infill and closure sealing plates supplied with panels. Alternatively cutting at site can be easily achieved with care taken to seal around the penetration.

Where doors are fitted for either plant removal or personnel access or maintenance they will have an acoustic performance equal to the panel-work. Doors will be fitted with heavy duty hinges and locks which should have panic release features. Door to close on to neoprene seals around the door periphery.

Windows

The windows shall be double-glazed units sealed by rubber section, and complete with silica gel bag to prevent condensation. Their acoustic performance will be equivalent of that of the door. They will be fitted as an extra if required.

Warranty

A warranty against defective materials or workmanship is furnished with all Waterloo Acoustic products, expiring 12 months from the date of despatch from our works.

We reserve the right to alter our design and specification at any time without prior notice to ensure continued product improvement.



External View of plant screen with standard AP75 acoustic panels

Type	Transmission Loss of Standard Acoustic Panels								
	63	125	250	500	1k	2k	4k	8k	R _w dB
AP50	16	22	29	33	39	45	51	48	R _w 38
AP75	17	25	31	36	42	48	54	49	R _w 41
AP/100	18	26	34	36	45	51	57	50	R _w 42

Type	Sound Absorption Coefficient of Standard Acoustic Panels								
	63	125	250	500	1k	2k	4k	8k	
AP50	0.15	0.30	0.60	0.70	0.85	0.85	0.80	0.80	
AP75	0.25	0.45	0.75	0.80	0.85	0.85	0.90	0.90	
AP/100	0.40	0.82	1.10	1.10	1.02	1.03	0.93	0.88	



Internal View of plant screen with standard AP75 acoustic panels and supporting steelwork

HIGH PERFORMANCE ACOUSTIC PANELS

Materials and Construction

Casing

Our high performance Acoustic panel is of a double-skin type construction, having an overall thickness of either 120mm. The outer skin is from 1.2mm thick pre-galvanised mild steel sheet and the inner skin from 22 swg flattened expanded metal retaining the acoustic media. With the addition of two internal mass layers to optimise noise reduction performance Internal stiffeners of 18 swg galvanised mild steel on a minimum of 550mm centres are fitted internally as required.

The standard finish is galvanised mild steel for the solid sheet outer and the perforated sheet inner faces.

Alternative finishes include polyester powder paint to any BS or RAL Colour range or PVC Plastisol to British Steel and BS Colour ranges.

Material Options – aluminium or stainless steel.

Acoustic media

The acoustic fill shall be inorganic, non-hygroscopic, flame, moisture and vermin proof mineral wool or glass fibre, with a minimum density of 45kg/ m3 and packed under at least 5% compression to avoid settling.

Where the infill can be contaminated or the environment is water or oil saturated then the acoustic fill is further protected by enveloping in an impervious membrane such as Melinex. This treatment is also recommended for Clean Room or Sterile applications.

Connections

The panels shall be connected with 18 swg minimum mild steel sections, rolled angle or channel sections, dependent on site requirements. The panels shall locate into their joiners or securing sections on close cell neoprene sponge and mastic. The section design and sealing arrangement shall be such that optimum acoustic performance is achieved from the erected acoustic structure.

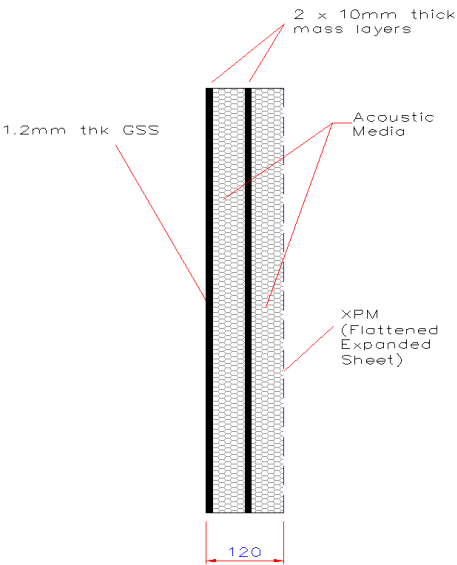
Penetrations for pipework, cables and ducts, etc, will be made where possible during manufacture, extract acoustic infill and closure sealing plates supplied with panels. Alternatively cutting at site can be easily achieved with care taken to seal around the penetration.

Where doors are fitted for either plant removal or personnel access or maintenance they will have an acoustic performance equal to the panel-work. Doors will be fitted with heavy duty hinges and locks which should have panic release features. Door to close on to neoprene seals around the door periphery.

Warranty

A warranty against defective materials or workmanship is furnished with all Waterloo Acoustic products, expiring 12 months from the date of despatch from our works.

We reserve the right to alter our design and specification at any time without prior notice to ensure continued product improvement.



AP/120 Acoustic Panel



Internal View of high performance acoustic panels

Type	Sound Reduction Index of High Performance								
	AP/120 Acoustic Panels								
	63	125	250	500	1k	2k	4k	8k	Rw (C:Ctr) dB
AP/120	18	26	35	43	46	55	60	46	R _w 44 (-2;-8)
Test results in accordance with BS EN ISO 10140-2; 2010									

