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# MAKING THE WORLD A QUIETER PLACE

## Audiology

A COMPLETE RANGE OF CERTIFIED HIGH PERFORMANCE FACILITIES FOR HEARING TESTING AND DIAGNOSIS

# IAC Acoustics

## Making the World a Quieter Place

Founded on an unrivalled history of engineering with some of the most pioneering discoveries in the industry, the IAC Acoustics brand is synonymous with technological innovation.

From controlling noise at a power station to tuning the sound in a TV or radio studio, IAC Acoustics has had a positive impact on society and helped to shape what can be achieved to make speech more intelligible, music more enjoyable, reduce the impact of industrial noise and protect people's sense of hearing.

The continual success of our products and services over the decades has brought the brand a reputation for quality and reliability among customers, whether they are multinational corporations or independent family businesses. This is supported by the expertise and passion of our workforce, the people behind the products, including designers, engineers and industry specialists.

To face the ever increasing noise reduction demands of the future, we will strive to further enhance our ability to reduce excessive noise. We aim to focus on developing tomorrow's solution today, innovating faster and delivering solutions that meet the requirements of the next generation. In doing so, we will stay true to our key values and founding philosophy to make the world a quieter place.

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# Audiology Facilities

## Overview

IAC Acoustics is the world's leading supplier of audiometric testing and medical research facilities. Having designed and built over 40,000 rooms since 1949, for hospitals, clinics, universities, schools, laboratories and medical centres internationally. Whether you require a standard screening booth, customised audiology room/suite or a vehicle-mounted mobile unit, you can be confident that IAC audiometric test facilities will comply fully with all relevant acoustic criteria, technical standards and international design specifications.

IAC is able to offer the following types of audiology facility:

- Single occupancy booths
- Standard booths (of varying different sizes and layouts)
- Bespoke rooms and booths
- Mobile facilities
- Hospital / clinic complete fit-out
- Refurbishment of existing rooms
- Room treatments / conversions for existing rooms being modified for audiology testing

In addition to the above, IAC can also provide a complete turnkey service.

## World class facilities.

IAC audiology facilities are among the best performing in the world. As the world's leading noise control company, you can be confident of taking reliable measurements.

# Single Occupancy Audiology Booths

## The 250 Series Mini Sound Shelter

The smallest booth in IAC's standard range, the 250 Mini Sound Shelter is an excellent, proven, low-cost solution for industrial audiometry and complies fully with ISO 8253-1:2010. Fitted with castors for complete mobility, it can be supplied fully assembled or in kit form. It is equipped with its own ventilation system, lighting, shelf and jack panel (for audiometer connection).



## The 350 Series Maxi Sound Shelter

A slightly larger booth than the 250 Series, it provides a controlled acoustic environment in which hearing evaluation can be undertaken efficiently at low cost, whilst complying with ISO 8253-1:2010. Equipped with its own ventilation system, lighting, and jack panel (for connection to an audiometer) it is ready to use within hours of delivery.



## Space-saving performance.

IAC audiology booths provide an ideal environment for hearing testing whilst taking up minimal floor space



# 250 Series Mini SoundShelter

Providing a controlled acoustic environment in which hearing screening can be undertaken efficiently at low cost, whilst complying with ISO 8253-1:2010

The compact design of the 250 Series Mini Sound Shelter allows it to pass easily through any standard doorway and fitted castors make it completely mobile. Equipped with its own ventilation system, lighting, seat, shelf and jack panel (for connection to an audiometer) it is ready to use within minutes of delivery.

## Dimensions

	W (mm)	D (mm)	H (mm)
Outside Dimensions	777 (including shelf)	981	1943
Inside Dimensions	604	860	1680

## Weight

295kg net, 322kg shipping weight.

## Construction

IAC 53mm thick Noishield™ panels - plain galvanised steel exterior surfaces and perforated galvanised steel interior surfaces.

## Door

One 604mm wide x 1680mm high (clear opening) IAC Noise-lock® door. For complete safety and effective acoustic control, self-aligning magnetic compression seals are mounted on the top, bottom and sides of the door leaf. The door can be supplied with either a right or left hand opening.

## Window

One double glazed unit comprises 6mm thick safety glass fitted in aluminium frames; clear view 750mm high x 600mm wide. The lower portion of the window has a frosted section.

## Jack Panel

Completely pre-wired, flush-mounted jack panel consists of nine 6.4mm 3 pole sockets and one Type A USB connection.

## Data

To comply with the ISO Standard BS EN ISO 8253-1:2010\* the appropriate permissible background / external noise level is no greater than 57dB (at 500Hz) assuming a noise barrier headset (audiocups) is used. If a higher degree of noise reduction is required, please contact IAC.

\*ISO 8253-1:2010 supersedes and replaces EN 26189/ISO 6189/BS 6655, which have been withdrawn.

## Ventilation

Ceiling panel contains a 12 volt IAC Tranquil-air™ all-in-one silenced ventilation system.

## Lighting

LED maintenance free, sensor operated ceiling recessed light, 12 volt.

## Shelf (external)

Folding shelf for audiometer, 680mm long x 450mm deep.

## Seat (internal)

Fixed moulded bench seat, 450mm deep, colour black.

## Electrical

A 3000mm long drop cord complete with mains/12 volt transformer is provided for connection to a 220/240 volt mains power point.

## Floor

Foam-backed carpet, colour Black.

## Paint Finish

White polyester powder coated, RAL 9010 matt. Exterior and interior.

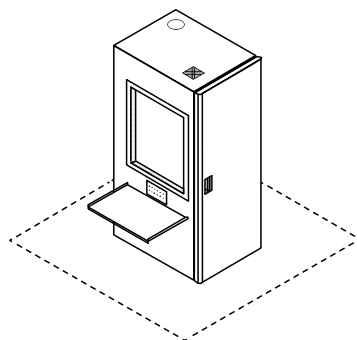
## Installation

Booth is supplied pre-assembled, finish decorated and ready for use. Also available in kit form where access is difficult for an assembled unit.

## Optional Equipment

(Additional costs apply)

- (a) Anti-vibration mounts
- (b) Alternative wired jack panels
- (c) Alternative paint colours / finishes



# 350 Series Maxi SoundShelter

Providing a controlled acoustic environment in which hearing screening can be undertaken efficiently at low cost, whilst complying with ISO 8253-1:2010

The 350 Series Maxi Sound Shelter provides a controlled acoustic environment in which hearing evaluation can be undertaken efficiently and at low cost, whilst complying with ISO 8253-1:2010. Equipped with its own ventilation system, lighting, and jack panel (for connection to an audiometer) it is ready to use within hours of delivery.

## Dimensions

	W (mm)	D (mm)	H (mm)
Outside Dimensions	1000	1069	2253
Inside Dimensions	894	948	2000

## Weight

350kg net, 400kg shipping weight.

## Construction

IAC 53mm thick Noishield™ panels - plain galvanised steel exterior surfaces and perforated galvanised steel interior surfaces.

## Door

One 894mm wide x 2000mm high (clear opening) IAC Noise-lock® door. For complete safety and effective acoustic control, self-aligning magnetic compression seals are mounted on the top, bottom and sides of the door leaf. The door can be supplied with either a right or left hand opening.

## Window

One double glazed unit comprises 6mm thick safety glass fitted in aluminium frames; clear view 750mm high x 600mm wide. The lower portion of the window has a frosted section.

## Jack Panel

Completely pre-wired, flush-mounted jack panel consists of nine 6.4mm 3 pole sockets and one Type A USB connection.

## Data

To comply with the ISO Standard BS EN ISO 8253-1:2010\* the appropriate permissible background / external noise level is no greater than 57dB (at 500Hz) assuming a noise barrier headset (audiocups) is used. If a higher degree of noise reduction is required, please contact IAC.

\*ISO 8253-1:2010 supersedes and replaces EN 26189/ISO 6189/BS 6655, which have been withdrawn.

## Ventilation

Ceiling panel contains a 12 volt IAC Tranquil-air™ all-in-one silenced ventilation system.

## Lighting

LED maintenance free, sensor operated ceiling recessed light, 12 volt.

## Electrical

A 3000mm long drop cord complete with mains/12 volt transformer is provided for connection to a 220/240 volt mains power point.

## Floor

Foam-backed carpet, colour Black.

## Paint Finish

White polyester powder coated, RAL 9010 matt. Exterior and interior.

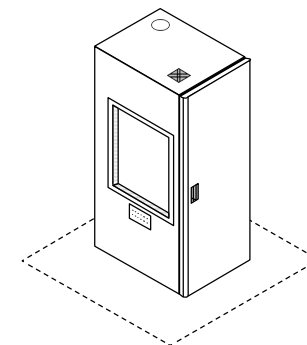
## Installation

Booth is supplied in kit form, finish decorated and ready for assembly. Concise instructions are included or alternatively IAC personnel can undertake the assembly.

## Optional Equipment

(Additional costs apply)

- (a) Anti-vibration mounts
- (b) Alternative wired jack panels
- (c) Alternative paint colours / finishes

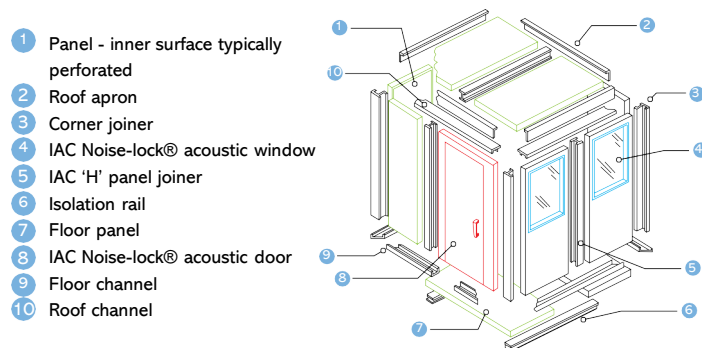




# Standard Audiology Booths

All IAC audiometric booths are constructed using Moduline™, an integrated system of laboratory and field tested components - including wall and roof panels, structurally isolated floors, doors, windows and silenced ventilation systems. The system offers many key advantages over traditional building materials:

- Guaranteed acoustic performance and compliance with all major technical standards, including HTM 2045 / ISO 8253
- Clean, rapid installation, keeps building time and mess / disruption to an absolute minimum
- Strong, lightweight structures are approximately 1/3 the weight of conventional structures of the same acoustic performance
- Rooms can be dismantled and moved to a different location at low cost and with no loss in acoustic performance



IAC modular audiology rooms are available in a wide range of sizes and can be finished to suit individual requirements. The range of rooms available are:

- **40a Range** - single skin construction complete with acoustic window
- **TETRA** - single skin construction for use in corners to save space
- **120a Range** - double skin construction for extraacoustic performance complete with quadruple glazed acoustic window
- **act Range** - a mixture of single / double skin construction rooms, each with adjoining control/observation room

IAC standard booths are constructed from 102mm thick IAC Noishield™ panels and offer a fitting environment for a whole range of audiological investigations and measurements, including bone conduction tests, speech therapy and psychological evaluations.



## Engineered to perfection.

Over 50 years experience in manufacturing and installing audiology rooms has given IAC the ability to provide the best possible facilities in both aesthetics and performance.

# 40a Series Audiology Booths

Providing a suitable environment for hearing testing examinations and research

## Noise Reduction & Sound Absorption

**Noise Reduction\*:** The minimum allowable noise reduction of completely assembled rooms, as tested in accordance with ASTM Standards in a recognised independent and approved laboratory, as shown in the table below.

**Sound Absorption:** The composite sheet metal and sound absorbing assembly shall have a sound absorption coefficient based on laboratory tests in accordance with ASTM C423-77 as shown in the table below.

	Octave Band Centre Frequency (Hz)						
	125	250	500	1k	2k	4k	8k
Noise Reduction (dB) for 40a Series Booths**	25	37	48	55	59	61	62
Sound Absorption Coefficient	0.49	0.37	0.83	0.96	0.99	1.00	-

Noise Reduction measurements shall be made in accordance with the following ASTM Designations: E596 and, where applicable, portions of E90 and E336.

\* Defined as the measured difference between the sound pressure levels in a reverberant room, outside the booth and inside the booth.

\*\* +/- 3dB for field instrument accuracy.

NIC – Noise Isolation Class, single number rating system for noise-reduction characteristics.

## Specification for IAC 40a Series Audiometric Examination & Medical Research Booths

**Roof & Wall Construction:** Roofs and walls are constructed from standard IAC Noise-Lock® 2 acoustic panels, 102mm thick. Average weights are no less than 50kg/m².

**Floor Construction:** IAC Acousti-flo™ floors shall be 50mm high and structurally reinforced. All floors are carpeted. Average weights are no less than 90kg/m². Floors float on properly loaded vibration isolators rated for a natural frequency of 6.5Hz for maximum elimination of structural noise.

**Acoustic Infill:** Floor, wall, door and roof panels shall be sound retardant, absorbing, inert, mildew resistant and vermin proof. Heat transfer factor shall be no more than 0.397W/m²°C.

**Door Construction:** IAC Noise-lock®, flush fitting doors with twin magnetic seals, cam lift hinges and pull handles shall be provided with a clear opening of 838mm wide x 1857mm high.

**Wall & Roof Panel 'H' Joiners:** Wall and roof panels shall be acoustically and structurally joined together by IAC 'H' joiners, to maintain the acoustic integrity of the booth.

**Window Construction:** Windows shall be 750mm x 600mm (sizes may vary in some orientations), using sealed double glazed assemblies within profiled steel frames.

**Jack Panel:** Jack panel comprising of nine 6.4mm three-pole jack sockets and one Type A USB connector shall be provided below the window. The panel shall be designed and installed to preserve the acoustic integrity of the booth.

**Electrical:** All booths are provided with lighting operated from an adjacent switch. A separate switch will control the ventilation system. Power operation 240 volt, 50Hz. (All cable supplied by others).

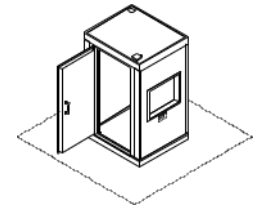
**Ventilation:** All models shall have the ventilation system roof or wall mounted and be operated in conjunction with special ventilation panels. A further 370mm should be added to the height, width or depth of the booth, depending on the location of the system.

**Finish:** All booths are supplied in a factory finish polyester powder coated condition. Colour: RAL 9002 (grey/white). All floors are covered in an anti-static carpet, colour: Light blue.

## 40a Series - Standard Sizes Available

The IAC 40a series is a range of single-walled booths for individual or multiple occupancy.

- Door Opening: 838mm wide x 1857mm high
- Window Clear View: 750mm wide x 600mm high
- Ventilation: Models 40a-1, 40a-2, 40a-2-se and TETRA have a ventilation system built into the roof panel. For Models 40a-3 to 40a-6 a further 370mm should be added to the height, width or depth of the booth, depending on the preferred location of the ventilation system

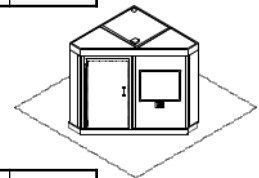


Model	Internal Dimensions (mm)			External Dimensions (mm)			Room Weight (kg)
	Width	Depth	Height	Width	Depth	Height	
40a-1	1066	864	1995	1270	1068	2197	740
40a-2	1320	1067	1995	1524	1271	2197	930
40a-2.5	1066	1880	1995	1270	2084	2197	1164
40a-3	2031	1067	1995	2235	1271	2197	1227
40a-4	2133	1422	1995	2337	1626	2147	1483
40a-5	1879	1880	1995	2083	2084	2147	1610
40a-5.5	1930	2286	1995	2134	2490	2147	1859
40a-6	2133	2134	1995	2337	2338	2147	1893
40a-7	2133	2286	1995	2337	2490	2147	1981
40a-7.5	1930	2540	1995	2134	2744	2147	1998
40a-8	2133	2642	1995	2337	2846	2147	2185
40a-9	2133	2997	1995	2337	3201	2147	2390
40a-10	2488	2642	1995	2692	2846	2147	2416
40a-11	2590	2591	1995	2794	2795	2147	2450
40a-12	2488	2997	1995	2692	3201	2147	2639
40a-13	2844	2997	1995	3048	3201	2147	2889
40a-13.5	2641	3404	1995	2845	3608	2147	3011
40a-14	3200	2997	1995	3404	3201	2147	3138
40a-2-se	1220	1016	1995	1424	1220	2197	866

## TETRA

The IAC TETRA is a uniquely shaped alternative to the options above, designed for single occupancy.

- Door Opening: 838mm wide x 1857mm high
- Window Clear View: 750mm wide x 600mm high
- Ventilation: Built into the roof panel



Model	Internal Dimensions (mm)			External Dimensions (mm)			Room Weight (kg)
	Width	Depth	Height	Width	Depth	Height	
TETRA	1930	1930	1995	2134	2134	2317	1140

## Optional Extras (additional costs apply)

- Acoustic double glazed vision panel within door (150mm x 600mm high)
- Emergency light pack
- Internal power sockets
- RF and electrostatic shielding
- Fabric covering to internal walls
- Power filters
- Special jack panels, cut-outs and plugs
- Increased clear opening width doors (where possible)
- One-way viewing film fitted to window
- High frequency fluorescent lights
- Additional colour options are available for all panels and doors

# 120a Series Audiology Booths

Providing the optimal environment for hearing testing and medical and scientific research

## Noise Reduction & Sound Absorption

**Noise Reduction\*:** The minimum allowable noise reduction of completely assembled rooms, as tested in accordance with ASTM Standards in a recognised independent and approved laboratory, as shown in the table below.

**Sound Absorption:** The composite sheet metal and sound absorbing assembly shall have a sound absorption coefficient based on laboratory tests in accordance with ASTM C423-77 as shown in the table below.

	Octave Band Centre Frequency (Hz)						
	125	250	500	1000	2000	4000	8000
Noise Reduction (dB) for 120a Series Booths**	47	62	83	91	99	97	91
Sound Absorption Coefficient	0.49	0.37	0.83	0.96	0.99	1.00	-

Noise Reduction measurements shall be made in accordance with the following ASTM Designations: E596 and, where applicable, portions of E90 and E336.

\* Defined as the measured difference between the sound pressure levels in a reverberant room, outside the booth and inside the booth.

\* +/- 3dB for field instrument accuracy.

NIC – Noise Isolation Class, single number rating system for noise-reduction characteristics.

## Specification for IAC 120a Series Audiometric Examination & Medical Research Booths

**Roof & Wall Construction:** Roofs and walls are constructed from standard IAC Noise-Lock® 2 acoustic panels, 102mm thick. Average weights are no less than 50kg/m².

**Floor Construction:** IAC Acousti-flote™ floors shall be 50mm high and structurally reinforced. All floors are carpeted. Average weights are no less than 90kg/m². Floors float on properly loaded vibration isolators rated for a natural frequency of 6.5Hz for maximum elimination of structural noise.

**Acoustic Infill:** Floor, wall, door and roof panels shall be sound retardant, absorbing, inert, mildew resistant and vermin proof. Heat transfer factor shall be no more than 0.397W/m²°C.

**Door Construction:** IAC Noise-lock®, flush fitting doors with twin magnetic seals, cam lift hinges and pull handles shall be provided with a clear opening of 838mm wide x 1857mm high.

**Wall & Roof Panel 'H' Joiners:** Wall and roof panels shall be acoustically and structurally joined together by IAC 'H' joiners, to maintain the acoustic integrity of the booth.

**Window Construction:** Windows shall be 750mm x 600mm (sizes may vary in some orientations), using sealed double glazed assemblies within profiled steel frames.

**Jack Panel:** Jack panel comprising of nine 6.4mm three-pole jack sockets and one Type A USB connector shall be provided below the window. The panel shall be designed and installed to preserve the acoustic integrity of the booth.

**Electrical:** All booths are provided with lighting operated from an adjacent switch. A separate switch will control the ventilation system. Power operation 240 volt, 50Hz. (All cable supplied by others).

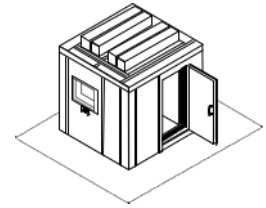
**Ventilation:** All models shall have the ventilation system roof or wall mounted and be operated in conjunction with special ventilation panels. A further 370mm should be added to the height, width or depth of the booth, depending on the location of the system.

**Finish:** All booths are supplied in a factory finish polyester powder coated condition. Colour: RAL 9002 (grey/white). All floors are covered in an anti-static carpet, colour: Light blue.

## 120a Series - Standard Sizes Available

The IAC 120a series is a range of double-walled booths for single or multiple occupancy.

- Door Opening: 838mm wide x 1857mm high
- Window Clear View: 750mm wide x 600mm high
- Ventilation: A further 370mm should be added to the width, depth or height of the booth, depending on the preferred location of the ventilation system



Model	Internal Dimensions (mm)			External Dimensions (mm)			Room Weight (kg)
	Width	Depth	Height	Width	Depth	Height	
120a-1	1322	1067	1995	1930	1675	2349	1894
120a-2	1881	1880	1995	2489	2488	2349	3006
120a-3	2135	2134	1995	2743	2742	2349	3463
120a-4	2592	2591	1995	3200	3199	2349	4349
120a-5	2846	2997	1995	3454	3605	2349	5039

### Optional Extras (additional costs apply)

- Acoustic double glazed vision panel within door (150mm x 600mm high)
- Emergency light pack
- Internal power sockets
- RF and electrostatic shielding
- Fabric covering to internal walls
- Power filters
- Special jack panels, cut-outs and plugs
- Increased clear opening width doors (where possible)
- One-way viewing film fitted to window
- High frequency fluorescent lights
- Additional colour options are available for all panels and doors





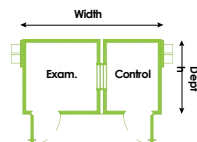
# act Series Audiology Booths

A range of audiometric booths incorporating an adjoining, acoustically isolated control room

## 40act Series - Standard Sizes Available

Two single layer rooms joined by a vibration isolated filler piece bridging a 102mm thick air gap.

- Provides examination room and control / observation room
- Connecting window provided between the two rooms
- All other details as per IAC's 40a series booths (see page 12)

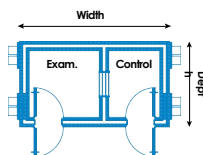


Model	Internal Examination			Internal Control			External Complete			Room Weight (kg)
	Width	Depth	Height	Width	Depth	Height	Width	Depth	Height	
40act-1	1879	1880	1995	1067	1879	1995	3454	2084	2147	2521
40act-2	2134	2134		1422	2133		4046	2338		3076
40act-3	2642	2134		1422	2133		4572	2338		3351
40act-4	2998	2134		1422	2133		4928	2338		3544
40act-5	2641	2134		2134	2133		5283	2338		3736
40act-6	2642	2134		2286	2133		5436	2338		3818
40act-7	2997	2134		2134	2133		5639	2338		3928
40act-8	2998	2134		2641	2133		6147	2338		4203
40act-9	2489	2642		2134	2641		5131	2846		4229
40act-10	2844	2997		2134	2997		5486	3201		4869
40act-11	3200	2997		2134	2997		5842	3201		5106

## 120act Series - Standard Sizes Available

Two single layer rooms with an outer enclosure of 102mm thick panels to provide a double walled construction.

- Provides examination room and control / observation room
- Connecting window provided between the two rooms
- All other details as per IAC's 120a series booths (see page 14)

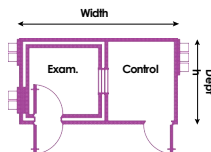


Model	Internal Examination			Internal Control			External Complete			Total Room Weight (kg)
	Width	Depth	Height	Width	Depth	Height	Width	Depth	Height	
120act-1	1882	1879	1995	1067	1879	1995	3861	2487	2349	2522
120act-2	2136	2134		1422	2133		4470	2742		3077
120act-3	2593	2591		2083	2590		5888	3199		4204
120act-4	2848	2997		2438	2997		6198	3605		5074

## 140act Series - Standard Sizes Available

Double layer examination room connected to single layer control room with no isolated floor.

- Provides examination room and control / observation room
- Connecting window provided between the two rooms
- All other details as per IAC's 40a and 120a series booths (see pages 12-15)

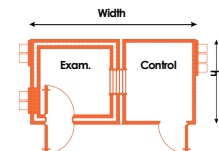


Model	Internal Examination			Internal Control			External Complete			Room Weight (kg)
	Width	Depth	Height	Width	Depth	Height	Width	Depth	Height	
140act-1	1881	1880	2369	2032	2286	2369	4623	2488	2349	3389
140act-2	2135	2134		2032	2540		4877	2742		3807
140act-3	2592	2591		2388	2997		5890	3199		4840
140act-4	2846	2997		2743	3403		6299	3605		5777

## 160act Series - Standard Sizes Available

Similar construction as 140a-CT, but rooms are divided by an extra acoustic barrier and an air gap bridged by a vibration isolated filler panel.

- Provides examination room and control / observation room
- Connecting window provided between the two rooms
- All other details as per IAC's 40a and 120a series booths (see pages 12-15)



Model	Internal Examination			Internal Control			External Complete			Room Weight (kg)
	Width	Depth	Height	Width	Depth	Height	Width	Depth	Height	
160act-1	1882	1880	1995	1930	2284	2369	4724	2488	2349	3337
160act-2	2136	2134		1930	2538		4978	2742		3741
160act-3	2593	2591		2134	2995		5639	3199		4661
160act-4	2847	2997		2642	3402		6401	3605		5700

## Specification for IAC act Series Audiometric Examination & Medical Research Booths

**Roof & Wall Construction** – Roofs and walls shall be constructed from standard medical acoustic panels, 102mm thick. Outer panel faces shall be 1.6mm steel sheet while inner faces will be 0.7mm galvanised perforated steel sheet with 2.5mm diameter openings on 5.0mm staggered centres. Panels are reinforced and framed with 1.2mm channels. Average weight to be no less than 50kg/m².

**Floor Construction** – IAC Acousti-flote™ floor shall be 50mm high and structurally reinforced. All floors are carpeted. Average weight shall be no less than 90kg/m². Floors shall float on properly loaded vibration isolators rated for a natural frequency of 6.5Hz for maximum elimination of structural noise.

**Acoustic Infill** – Floor, wall, door and roof panels shall be sound retardant, absorbing, inert, mildew resistant and vermin proof. Heat transfer factor shall be no more than 0.397W/m²·°C.

**Door Construction** – IAC Noise-lock®, flush fitting, cam lift swing doors with twin magnetic seals and pull handles shall be provided with a clear opening of 838mm wide x 1857mm high. The door leaf shall be fabricated from 1.6mm thick steel on the outer and inner face and 1.6mm framing and reinforcing sections.

**Wall & Roof Panel 'H' Joiners** – Wall and roof panels shall be acoustically and structurally joined together by IAC 'H' joiners, constructed from 0.9mm steel shall maintain the acoustic integrity of the booth.

**Window Construction** – Windows shall be 750mm x 600mm (sizes may vary in some orientations), consisting of two double glazed assemblies, using 6.0mm thick laminated safety glass, with 'pressure-sealed' aluminium trim frame.

**Jack Panel** – Jack panel comprising of nine 6.4mm three-pole jack sockets and one Type A USB connector shall be provided below the window. The panel shall be designed and installed to preserve the acoustic integrity of the booth.

**Electrical** – All booths are provided with lighting operated from an adjacent switch. A separate switch will control the ventilation system. Power operation 240 volt, 50Hz. (All cable supplied by others).

**Ventilation** – All models shall have the ventilation system roof or wall mounted and be operated in conjunction with special ventilation panels. A further 370mm should be added to the height, width or depth of the booth, depending on the location of the system.

**Finish** – All booths are supplied in a factory finish polyester powder coated condition. Colour: RAL 9002 (grey/white). All floors are covered in an anti-static carpet, colour: Light blue.

### Optional Extras (additional costs apply)

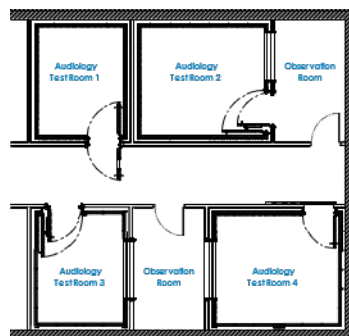
- Acoustic double glazed vision panel within door (150mm x 600mm high)
- Emergency light pack
- Internal power sockets
- RF and electrostatic shielding
- Fabric covering to internal walls
- Power filters
- Special jack panels, cut-outs and plugs
- Increased clear opening width doors (where possible)
- One-way viewing film fitted to window
- High frequency fluorescent lights
- Additional colour options are available for all panels and doors

# Turnkey & Bespoke Hospital / Clinic Fit-outs

Many projects require specially designed audiology rooms and booths to solve particular architectural and aesthetic issues. IAC is able to design and install rooms and booths of virtually any size and shape to solve client problems.

A turnkey approach is adopted on many projects where IAC undertakes associated works which have a bearing on the acoustic performance of a facility. Where this is the case, IAC is able to provide:

- Acoustically compatible ventilation or air conditioning system
- Complete design flexibility gives freedom to order rooms of almost any size and shape
- Electrical services
- Specialist and concealed wiring for test equipment, induction loops, communication systems etc.
- Interior decoration



Typical Layout of a Turnkey 4 Room Audiometric Suite

## A fresh start.

A new building gives the opportunity to incorporate suitable acoustic treatments into the host structure for the best possible performance.



#### IAC Project - Royal Hampshire County Hospital

- Turnkey design, project management and installation
- IAC Noise-lock® linked doors
- Fabric lined Moduline™ walls
- Structurally isolated floating floor
- RF shielded paediatric room for diagnostic testing



In a contract run in tandem with the refurbishment of the entire outpatients clinic, IAC designed and installed a suite of four bespoke audiology test rooms at the Royal Hampshire County Hospital in Winchester.

IAC was awarded the contract by one of the largest construction firms in the UK on the basis of our proven track record and first-class products. Working closely with the appointed architect and The ENT specialists at Hampshire Hospitals NHS Foundation Trust, IAC took full responsibility for the acoustic performance of the suite in this turnkey project.

Consisting of a block of 2 paediatric audiology rooms (1 on either side of an observation room) and 2 other separate testing rooms, each space is used for different activities. Each room comprises IAC Moduline™ acoustic walls covered with a coloured stretch fabric finish. In order to minimise the sound transmission, each room is structurally isolated from one another and the host building by means of anti-vibration mounts.

All rooms feature a set of IAC Noise-lock® STC 51 linked doors with twin magnetic seals to provide the best possible sound attenuation. One room had been specified with RF (radio frequency) shielding due to specialist testing happening inside the

facility. For this room, IAC used modified acoustic doors with RF protection by using a compression closure mechanism to ensure conductivity. Despite the industrial finish beneath to ensure the correct level of shielding, the room is decorated as the other rooms with stretched fabric and is still aesthetically pleasing.

Like any major building refurbishment, IAC faced challenges whilst on site as adjoining areas of the hospital site were also having work completed. Luckily, due to the modular construction of IAC audiology rooms, no 'wet' trades were required, keeping mess and disruption to an absolute minimum.



#### Turnkey service.

RF shielding was required for this project, adding complexity and specialist construction techniques





## Tumkey service.

A turnkey, project managed installation of 6 audiology testing rooms at the Derby City General Hospital

### IAC Project - Derby City General Hospital

- Turnkey installation and project management
- ISO 8253-1:2010 compliant
- HTM 2045 compliant
- IAC Noise-lock® linked acoustic doors
- IAC Noise-lock® windows



A major redevelopment in Derby brought together Derbyshire Royal Infirmary and Derby City General Hospital to create a new 1,159 bed acute hospital and specialist care diagnostic centre.

Main contractors for the project, Skanska selected IAC to design and install a six room audiology suite, following an evaluation of technical quality and value for money. The suite, located in a single corridor, comprises five test rooms and an observation room. The observation room is designed to allow one way viewing to two adjacent audiology test rooms.

IAC utilised its high performance Moduline™ acoustic building system to create the rooms. Each area comprises of a floating floor on anti-vibration mountings which completely supports the walls and roof. The rooms have been provided with IAC's unique link door assemblies to save space and offer an exceptional level of sound control between rooms and the busy adjacent corridor. Viewing windows in the doors offer the opportunity to check room occupancy.

Attention was paid to the aesthetics of the rooms to provide a relaxing environment for patients to develop accurate tests and a pleasant workspace for staff.

All walls were fitted with a stretch fabric covering, floors carpeted, while a mineral tile ceiling integrated a low-noise lighting system.

Electrical services were integrated into the scheme and included power sockets, fire alarms, smoke detection and data points. The observation room has integrated jack panels for connection of audiometers to both the adjacent rooms.

Air conditioning of the rooms was considered essential to provide a good working environment. Featuring IAC Quiet-vent® attenuators the noise impact of the system is kept to a bare minimum.



## IAC Project - Bransholme Health Centre

- Turnkey design, project management and installation
- IAC Noise-lock® linked doors
- Fabric lined Moduline™ walls
- Structurally isolated floating floor
- HTM 2045 compliant



Built in 2012, the new Bransholme Health Centre in Hull combines council offices, eight GP practices and other medical services including audiology, prosthesis, podiatry and a minor injuries clinic.

IAC was approached at the very late stages in the construction of the new facility as the addition of a sound proof room for hearing testing and consultation had been overlooked. With a very tight timescale and minimal remaining budget, IAC worked closely with the clinicians who would be running the facility in addition to the main contractor.

Because the audiology room was left so late in the overall construction, IAC had to take care so as to not disturb the rest of the site as the building was essentially completed with most areas fully decorated.

The bespoke consulting room was constructed using a floating floor to prevent structure-borne sound transmission, whilst the walls were made using IAC's own modular panel system, Moduline™.

IAC installed a false ceiling in the room with integrated low-noise lighting and used the host structure ventilation system to supply fresh air. Due to the stringent background noise levels permitted for audiology testing, IAC Quiet-vent® attenuators were used in the ductwork to supply air to the room and create a near silent supply.

Access to the facility is via a set of IAC Noise-lock® STC 51 linked acoustic doors to provide the best possible noise reduction from the adjacent corridor. An IAC Noise-lock® STC 45 acoustic window was also installed between the consulting and observation rooms to allow sight of paediatric patients during a hearing test.

The project was delivered on time and within budget, despite the difficult conditions and short timescales.



## Turnkey service.

IAC's ability to design, manufacture and install a project quickly came into play with this project.



## Turnkey service.

A turnkey, project managed installation of 7 bespoke audiology testing rooms at the world-class John Radcliffe Hospital in Oxford



### IAC Project - John Radcliffe Hospital

- Turnkey installation and project management
- ISO 8253-1:2010
- HTM 2045 compliant
- IAC Quiet-vent® silent air conditioning system
- IAC Noise-lock® linked acoustic doors



In a contract worth in excess of £200,000, IAC designed and installed a suite of seven bespoke audiology test rooms at the world-class John Radcliffe Hospital in Oxford.

IAC was brought in by Carillion, one of the UK's premier contractors in hospital design and build, on the basis of our proven track record and first-class products. Working closely with the appointed architect and Oxford NHS Trust, IAC took full responsibility for the acoustic performance of the suite in the turnkey project.

Consisting of a block of 4 audiology rooms (2 on either side of an observation corridor) and 3 other separate testing rooms, each space is used for different activities.

Each room comprises IAC Moduline™ acoustic walls covered in a different coloured stretch fabric finish depending on the use. In order to minimise the sound transmission, each room is structurally isolated from one another and the host building by means of anti-vibration mounts.

All rooms feature a set of IAC Noise-lock® STC51 linked doors with twin magnetic seals to provide the best possible sound attenuation. Except for one large room, each facility also features an IAC Noise-lock® STC45 windows to provide an acoustically treated vision panel between test and observation rooms.

Like any major improvement, IAC faced challenges so as to minimise the effects on adjoining areas of the hospital site. Luckily, due to the modular construction of IAC audiology rooms, no 'wet' trades are required which keeps mess and disruption to an absolute minimum.





# Refurbishment Service

IAC offers a complete refurbishment service for all audiology rooms. Old and unattractive rooms can be refreshed and made to look like new, making them more appealing and acceptable to patients and staff.

IAC is able to offer the following types of refurbishment services:

- Changes to the shape, size, height and configuration of a room
- Introduction of new doors with flush thresholds and twin magnetic seals
- Additional windows configured or removal of redundant openings
- Secondary glazing / acoustic treatments to existing windows where removal is not permitted (listed buildings etc.)
- New finishes of wall fabric, carpet or false ceilings
- Electrical installations updated
- New ventilation or provision of acoustically compatible air conditioning

From this...



To this...



## Refurbishment services.

Appropriate hearing examination environments can be created from untreated rooms with the right mix of products from IAC



### IAC Project - The Crystal Centre, London

- Complete refurbishment of existing room
- New wall linings
- Plumbing added for sink
- IAC Quiet-vent® silent air conditioning system
- Secondary glazing



The Crystal Centre in South London had a limited budget, but required more space for hearing examinations and testing. IAC was chosen to transform an existing office into a new audiology consulting room and maximise the acoustic performance, despite the limitations of the host building.

The Crystal Centre is located within a old listed building which posed some difficulties in the type of refurbishment achievable. A large audiology booth was initially requested, but the second floor location and insufficient floor strength meant this option was not practical.

As the room was located at the rear of the building and not as susceptible to noise from the nearby road, IAC set to work on retrofitting a number of different acoustic treatments. The room was cleared and all partitioned cupboards etc. removed to increase useable floor space. All of the walls were treated with IAC acoustic panels and lined with a green fabric finish. A false ceiling was installed with acoustically absorbent tiles with integrated low noise lighting. In addition to this, new carpets were laid on top of an acoustic foam for maximum vibration isolation.

In normal circumstances, IAC Noise-lock® acoustic windows would have been fitted, however due to the listed nature of the building, no external modifications were permitted. Instead, acoustic secondary glazing was fitted inside the room. An IAC Noise-lock® STC 51 door was fitted at the entrance to the room to minimise transmission of sound from other parts of the building and an acoustic fire door fitted at the emergency exit leading to an external fire escape stair case.

In addition to the acoustic treatments installed, IAC also managed all mechanical and electrical works including a silent ventilation system, re-wired power sockets throughout the room and plumbing for a new sink.





# Mobile Audiology Facilities

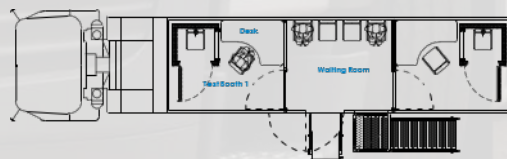
IAC mobile audiology units provide employers with an ideal environment with which to meet their healthcare screening needs. IAC mobile audiology units are adaptable to other healthcare screening procedures such as x-rays, lung function, skin checks, Hand Arm Vibration Assessment(HAVS) and vision testing.

IAC supplies mobile audiology facilities as complete, ready-to-use units. Typical features of IAC mobile audiology units include:

- IAC standard audiology booths are suitable for vehicle mounting
- Bespoke designed booths are also available
- Options include mobile trailers, temporary buildings or complete mobile units
- We provide a complete advice and design service
- Minimum disruption to work patterns of employees
- Fitted for disabled access
- Lighting, power supplies, ventilation and heating included
- Provides a safe quiet environment for accurate testing



Typical Layout of a Mobile Audiometric Suite



Hearing testing on the go.

Facilities don't just need to be situated at a clinic or hospital, mobile and/or temporary solutions can be provided.



# Acoustic Room Treatments

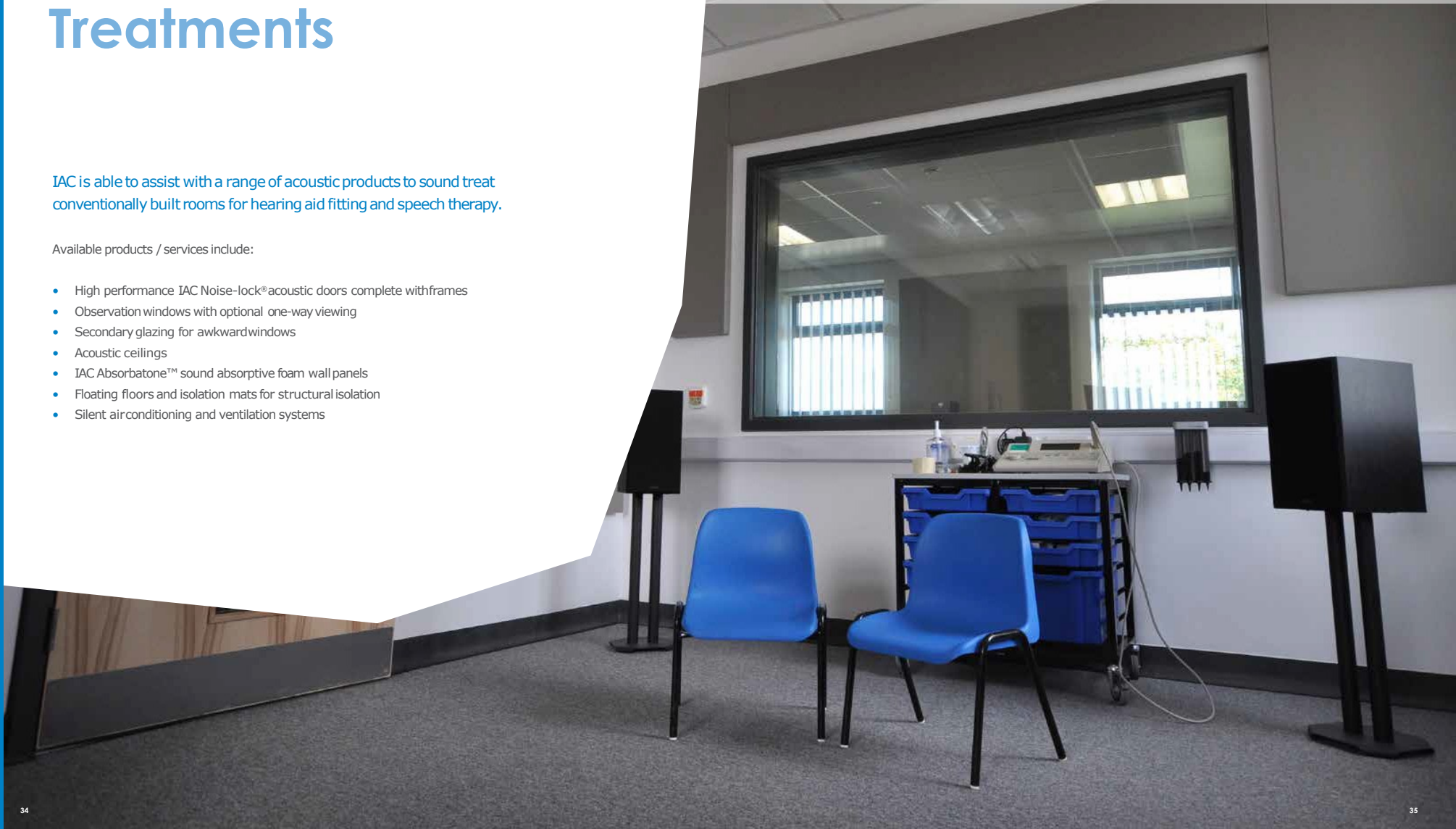
IAC is able to assist with a range of acoustic products to sound treat conventionally built rooms for hearing aid fitting and speech therapy.

Available products / services include:

- High performance IAC Noise-lock® acoustic doors complete with frames
- Observation windows with optional one-way viewing
- Secondary glazing for awkward windows
- Acoustic ceilings
- IAC Absorbatone™ sound absorptive foam wall panels
- Floating floors and isolation mats for structural isolation
- Silent air conditioning and ventilation systems

## Retrofitting a suitable environment.

Integrating an individual room or a complete suite into an existing building can be possible with a mixture of products from IAC. From acoustic doors and windows, to silent air conditioning and absorption, the best possible results can be achieved.





## Acoustic treatments.

Acoustic doors, secondary glazing and Absorbatone™ panels helped the Royal Derby Hospital turn a former corridor of offices into a 3 room audiology suite

### IAC Project - Royal Derby Hospital

- Sound treated suite of audiology rooms
- IAC Noise-lock® acoustic doors with outer sliding leaf
- IAC Absorbatone™ panels
- Secondary acoustic glazing
- IAC VIKAFoam

Previously a corridor of administration offices and storage spaces, this suite of 3 audiology rooms was retrofitted into the Royal Derby Hospital. With a limited budget, IAC managed to get the best possible performance from utilising a range of acoustic treatments.

Working closely with the appointed architect for the project, IAC advised how to get the most effective acoustic performance.

Structure-borne noise was minimised by fitting a layer of IAC's VIKAFoam beneath the concrete screed. The resulting 'floating' floor meant that each of the rooms were effectively isolated from the host building and one another.

Sound transmission from the adjacent corridor and waiting area was by means of IAC Noise-lock® acoustic linked doors. Linked doors are often used on IAC installations where the audiology lab is constructed as a room within a room for additional acoustic performance.

In this instance, due to space constraints and the presence of only a single skin wall, the outer doors to each room operated via a sliding mechanism, rather than traditional hinges. In addition to the doors, IAC also supplied a secondary glazing solution to minimise sound transmission from outside the building. Due to the windows effectively having to be sealed for testing purposes, IAC also recommended an appropriate air conditioning unit which generated minimal sound.

As the walls of each room were untreated, additional absorbency was required to reduce reverberation times. IAC calculated the amount required in order to reduce reverberation times sufficiently enough for hearing testing and arranged a number of 25mm thick Absorbatone™ panels on the walls in a colour specified by the client.

## Audiology 3



## IAC Project - St Catherine's Health Centre

- Advisory service provided to main contractor, Vinci Construction
- IAC Absorbatone™ wall absorbers used throughout consulting room
- Acoustic tests carried out
- Saved client a significant amount of money



St Catherine's Health Centre in the Wirral was a new facility, constructed in 2012. The £32 million project created a 11,100m<sup>2</sup> four-storey health centre with multiple services, including GP surgeries. The new facility replaced a range of former workhouse and sanatorium buildings dating back to the 1800s.

IAC had already been involved in the project from the early stages and installed a high performance sound proof booth for the audiology department. In the latter stages of the project IAC was approached by Vinci Construction, the main contractor concerning a paediatric speech and language consulting room.

The consulting room, which had no acoustic treatments applied needed to be improved before patients could be tested. IAC acted on an advisory basis to try and improve the reverberation times within the room, without modifying the construction, including doors and windows.

IAC tested the room and carried out an acoustic consultation where improvements could be made. As a result, IAC recommended the use of Absorbatone™ panels.

By treating the bare walls, IAC managed to reduce the reverberation times inside the room to an acceptable level.

This method of treating a consulting room, although not ideal, was possible due to the low background noise levels present.

The addition of absorption panels not only saved the client money, it also meant that patients could start to be tested immediately after the facility was opened due to the fast turnaround time from IAC.



## Sound quality improvements.

By analysing the required amount of absorption, IAC managed to improve speech intelligibility and reduce reverberation times.





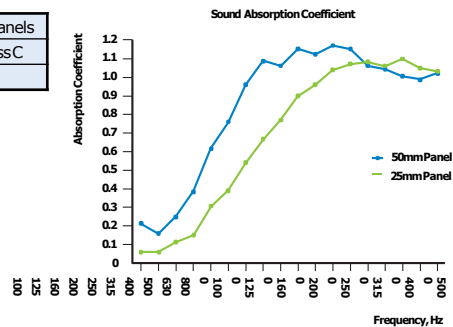
# Absorbatone™ Absorption Panels

Absorbatone™ is a range of fabric covered absorber panels specifically designed to reduce and control reverberation time. Once fitted, Absorbatone™ panels create a pleasant acoustically enhanced environment and can greatly improve speech intelligibility.

IAC Absorbatone™ panels are wrapped using acoustically transparent, highly durable fabrics which compliment the excellent sound absorbing properties of the foam interior. A choice of colours ensures that Absorbatone™ panels can either be a feature or discretely blend into the background depending on the application and customer requirements.

Absorbatone™ is designed to be directly fixed to flat surfaces (walls/ceilings) with either high tack adhesive or magnetic strip, depending on the make up of the host structure.

50mm thick Panels	25mm thick Panels
Absorber Class: A	Absorber Class C
NRC: 0.95	NRC: 0.75



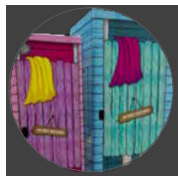
**A cost  
effective solution.**

An ideal solution to increasing absorbency in a room or space, improving speech intelligibility and reducing reverberation.

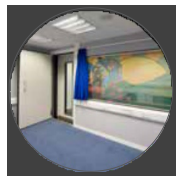
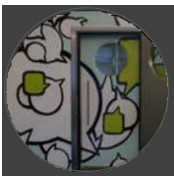
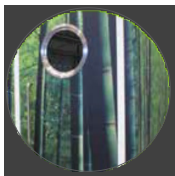
# Non-standard Finishes Available

Aesthetics can play a big part in making patients feel more comfortable when in a clinical environment. IAC is able to supply a range of different finishes to all audiology facilities to suit individual requirements.

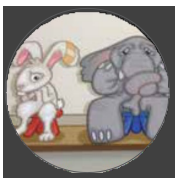
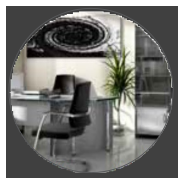
Audiology rooms can be lined with a huge range of different coloured and patterned fabrics. In addition to non-standard paint colours to match your own styling, a range of additional finishes are available which include:



Vinyl wrapping or individual graphic application



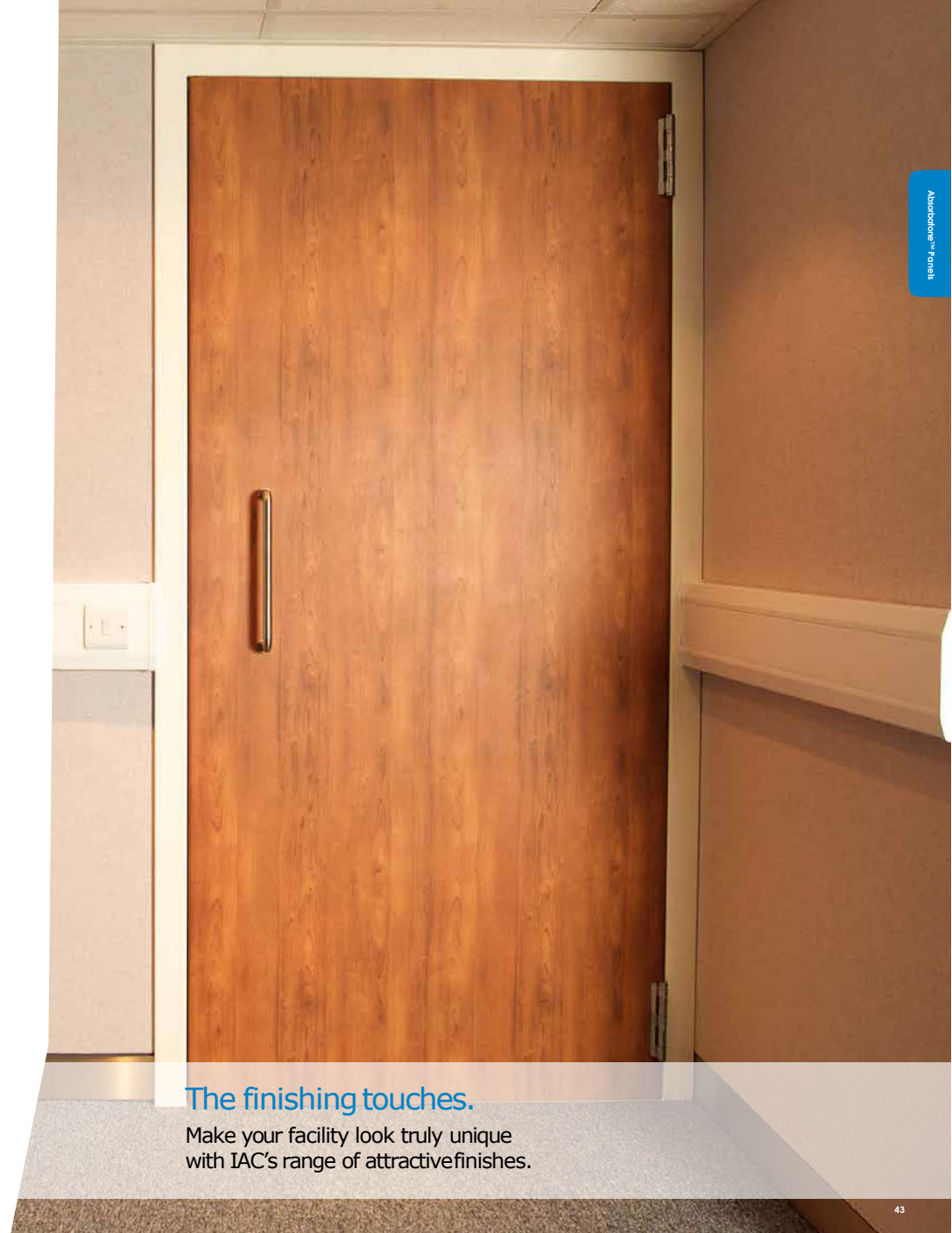
Printed one-way viewing film



Absorbatone™ panels with printed fabric coverings



Wood grain paint finishes



## The finishing touches.

Make your facility look truly unique with IAC's range of attractive finishes.



# A True World Leader

In addition to providing audiology booths and rooms, IAC Acoustics is also able to provide the following solutions to noise control:

- Acoustic doors
- Acoustic windows
- HVAC attenuators
- Acoustic louvres
- Acoustic studios
- Acoustic wall treatments
- Anechoic chambers
- Acoustic barriers
- Acoustic enclosures
- Engine exhaust silencers
- Vent silencers
- Aero-engine test facilities
- Jet blast deflectors
- Ground run-up enclosures
- Gas turbine acoustic packages

IAC Acoustics' wealth of engineering experience means that custom solutions can also be tailored for specific client applications. Please contact your local office should you require a unique solution.

## An Engineering Benchmark.

IAC products are respected worldwide for their quality and certified performance. Rest assured that IAC can deliver a solution to your unwanted noise problem.





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IAC has worldwide offices and manufacturing plants in the UK, Australia, Canada, China, Malaysia, Indonesia, Thailand, Philippines Denmark, France, Germany, Italy, Spain, UAE - Dubai, USA Houston, USA Lincoln, USA - New York.

