

IAC Acoustics

Corporate Overview

Passionate
Collaborative
Innovative
Trusted
Empowered
Energised



making the world a quieter place

Introduction

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.



Power & Energy



Engineering Services



Acoustic Test Facilities



Aviation



Commercial Construction



Soundproof Rooms and Booths



Mining



Our Fields

Page 4 **Power & Energy**

We engineer, develop, manufacture and install innovative solutions to solve noise related issues resulting from power generation. From exhausts for diesel and gas generators, to tailored acoustic packages for gas turbines and fossil fuel extraction, we can provide a complete solution to reducing the noise impact on neighbouring communities.

Page 6 **Engineering Services**

In addition to providing the best possible products for reducing noise, we can also analyse and recommend solutions to noise through simulation and acoustic analysis. By monitoring industrial sites such as process plants or airports, we can provide the best possible advice on how to address noise complaints and through the use of advanced software, analyse noise to determine their source.

Page 8 **Acoustic Test Facilities**

Our acoustic test facilities perform exactly how they are specified. To produce consistent results, no matter what the test subject, to ensure our clients can make reliable and accurate measurements to enhance their products. We do this safe in the knowledge that all our facilities are constructed using our own range products, each with an individually certified acoustic performance rating.

Page 10 **Aviation**

IAC are specialists in providing noise reduction for facilities used to test aero-engines and aircraft. We can also provide the complex systems for monitoring and controlling the engine and equipment and other sub systems necessary for turnkey projects. The facilities we provide are optimised for the application, be they for testing on or off wing, for a dedicated single engine type or for a wide range of aircraft and include everything from turnkey projects to airport blast barriers.

Page 12 **Commercial Construction**

All modern commercial buildings have an element of acoustic treatments applied. Whether its dealing with noise associated with air handling systems, reducing the echo of large open spaces or containing sound within certain rooms or zones, we can help.

Page 14 **Sound Proof Rooms & Booths**

Sometimes, specific acoustic environments are required for testing, singing, filming or even interviewing. From audiology booths, to music practice rooms, broadcast studios and police questioning rooms, we can help you choose the exact acoustic requirements to suit your needs. Plus we will adhere to any legislation needed before commissioning.

Page 16 **Mining**

Reducing the noise impact on neighbouring communities and protecting the hearing of on-site personnel is a major concern for mining organisations. By ensuring the large machinery used is as quiet as possible, complaints are reduced from those living nearby allowing larger areas can be excavated, maximising efficiency.

Key products for the following applications:

Gas Turbines

- Exhaust silencers
- Intake silencers
- Ventilation silencers
- Acoustic enclosures
- Filtration systems
- Complete packaging service available

Diesel / Gas Reciprocating Engines

- Exhaust silencers
- Ventilation packages
- Acoustic enclosures
- Acoustic ISO containers
- Catalytic converters (SCR)
- Silencer accessories

HRSG / Process Plants

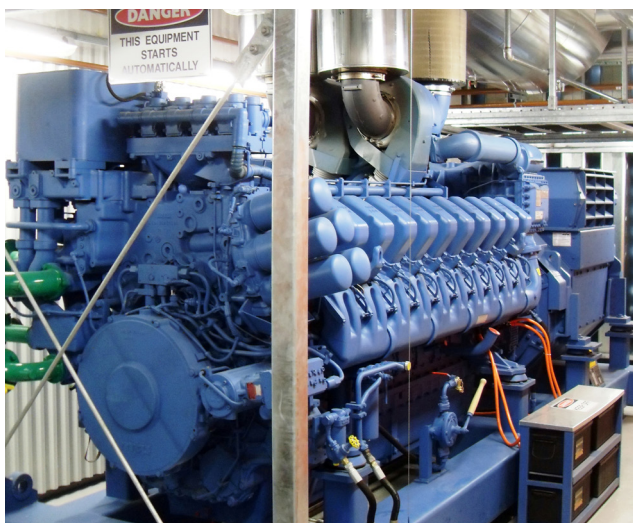
- Acoustic enclosures
- Vent / blow-down silencers

Power & Energy

For quieter electricity generation.

The Power & Energy team offer a unique proposition to generator manufacturers and engine packagers as we are able to offer a truly global service. No matter what engine, whatever the acoustic requirements, wherever the generator will be sold. Because of our global coverage both commercial and operations, we are able to offer the best possible solution, whether that be supplied at the point of manufacture, or retrofitted once installed on site.

Our product ranges allow us to offer the widest possible choice to customers and enhance our relationships with end users through our local sales support network. If the need arises, we can always engineer a bespoke solution to a particular noise problem. We've been around for over 60 years as a group and some of our acquired organisations have been established even longer, so rest assured that you're in good company.



Acoustic diesel generator package



Gas turbine acoustic container package

Key services offered:

Acoustic Testing

- Independent acoustic laboratories for product testing

Environmental Analysis

- Audibility testing
- Wind farm impact assessments
- Acoustic measuring
- Acoustic monitoring
- Acoustic surveys of industrial sites
- Alarm audibility testing for critical buildings such as nuclear plants
- Pulsation and vibration analysis of pipelines
- Acoustic data processing / noise detection

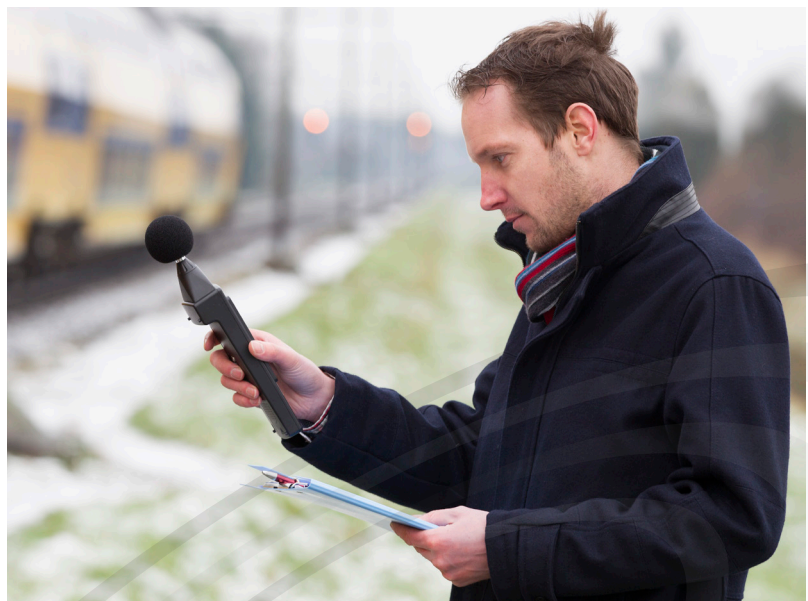
Aerodynamic Analysis



Engineering Services

Measuring unwanted noise, and calculating the best solution to solve it.

In addition to producing some of the best performing products to reduce unwanted noise, we can also aid in measuring the effectiveness of current sound proofing and recommend alternative solutions. By analysing and modelling the noise from industrial buildings, power plants, wind farms and airports, we can determine what actions are needed to reduce noise and make predictions for new sites to ensure potential noise is catered for prior to completion. Our unique software which utilises over 20 years of past data is able to determine the source of noise at certain frequencies, meaning we can tell if noise complaints actually relate to a particular problem or not. In addition to field based analysis and measurement, we also have the ability to carry out acoustic testing in our independently accredited aero-acoustic laboratories.



Acoustic Test Facilities

World-class testing facilities for acoustic R&D and certification.

Acoustic test facilities by their very nature are typically very quiet spaces. We've delivered some of the quietest ones across the world and made some discoveries along the way that have changed the industry. From the first metal-encased anechoic wedge to a complete acoustic air-handling control system, we are continually improving the way our facilities are constructed, enabling our clients to make the most accurate measurements for their own product improvement. Whether it be pinpointing noise sources in a diesel generator or testing the effectiveness of acoustic door seals, we can design the best possible facility for your needs.

Everything from the wall linings, doors, windows, floors and ceilings are all designed by us using engineering principles established from tested and qualified products. This means we can rely on their performance and our clients can rest assured that their facility will perform as specified. For some of our larger facilities, we also supply our own ventilation system, meaning subjects like engines can be cooled whilst on test to improve efficiency and create a better simulation.



Right:
Volvo hemi-anechoic
Chamber

Below left:
Lorient transmission
suite for acoustic seal
testing

Facilities offered:

Automotive

- Pass-by chambers
- VSAC (Vehicle Semi-Anechoic Chambers)
- ESAC (Engine Semi-Anechoic Chambers)
- Powertrain rooms
- Listening rooms
- Quiet rooms
- Driveline chambers
- NVH laboratories
- Modal analysis facilities
- Shake and rattle chambers
- Airbag testing rooms

OEM / Industrial

- Anechoic chambers
- Hemi-anechoic chambers
- Reverberation rooms
- Mini / mobile anechoic chambers
- Transmission suites

Education / Acoustic Research

- Anechoic chambers (broadband)
- Anechoic chambers (puretone)
- Hemi-anechoic chambers



Aviation



Left:
Partially constructed 6m high Blast Barrier for high power testing of Airbus production aircraft

Right:
British Airways A380 on test in one of two Code F sized Ground Run-up Enclosures (GREs) supplied at London Heathrow Airport

From A380s to APUs, IAC has been providing the widest range of aero engine testing facilities and products globally for over half a century. Specialising in the supply of turnkey facilities IAC can supply everything from full OEM approved and correlated engine test and development facilities to simple and effective airport barriers. At IAC the products and services are constantly being refined to provide the most modern and efficient solutions to engine and aircraft testing requirements for both military and commercial applications. At the core of our success is the ability to work with our customers from the initial contact to the final handover of any product to ensure complete satisfaction technically and commercially. And the support doesn't stop when we hand over a facility, our standard guarantees and warranties are backed by a dedicated support team available to help keep your facility in top condition as well as offering calibration services and upgrades as the equipment matures.

Key technologies. As acoustics specialists, IAC provide a full range of noise control products for both indoor and outdoor testing and refuse to be constrained by convention if there is a problem to be solved. Our knowledge of both the testing environment and acoustic performance ensures we never compromise when it comes to either aerodynamics or acoustic performance when designing a facility. We utilise the most modern techniques and software to refine flow paths and develop a balanced aero-acoustic solution. This enables us to provide a stable testing environment either on or off wing for all engine types – jet, prop or shaft. Whatever the application, chances are we have a solution already, but if not, we are ready to accept your challenge and maximise your testing options.



Facilities offered:

Aero-engine

- Aero-engine test facilities
- APU test cells
- Data acquisition
- Mobile engine test facilities
- Facility management, support and maintenance

Airports

- Ground Run-up Enclosures (GREs)
- Jet blast deflectors / barriers
 - Mesh angled
 - Mesh vertical
 - Solid angled
 - Solid vertical
 - Palletised barriers
- Acoustic barriers
- Acoustic head-of-stand cabins



Left:
Multi-engine aero-engine
test facility for H+S Aviation

Key Products:

Doors & Windows

- Architectural acoustic doors from 47dB – 64dB noise reduction
- Acoustic windows
- Acoustic sliding doors
- Acoustic partition systems

HVAC

- Duct silencers
- Acoustic louvres
- Acoustic air handling units (AHUs)
- Acoustic splitters

Acoustic Panels

- Rugged tuning panels
- Foam absorber panels
- Acoustic walls, barriers & screens

Commercial Construction

High performance components for all kinds of commercial building.

Our range of acoustic products for commercial buildings can be used individually or as part of a complete package to minimise noise. Air handling systems can be quietened using our comprehensive range of duct silencers to reduce the noise from fans, chillers and pumps. Mechanical plant can also be shielded using barriers and acoustic louvred screens. These products not only serve a functional purpose, but are also aesthetically pleasing. Noise-lock, our range of acoustic doors and windows is the ideal solution to shielding unwanted noise or containing sound within a room or space whether they be for internal or external use, architectural or industrial. Complementing our doors and windows is Moduline, our range of acoustic construction panels to ensure an effective acoustic performance between rooms.



Double acoustic doorset installed at IMG

Soundproof Rooms & Booths

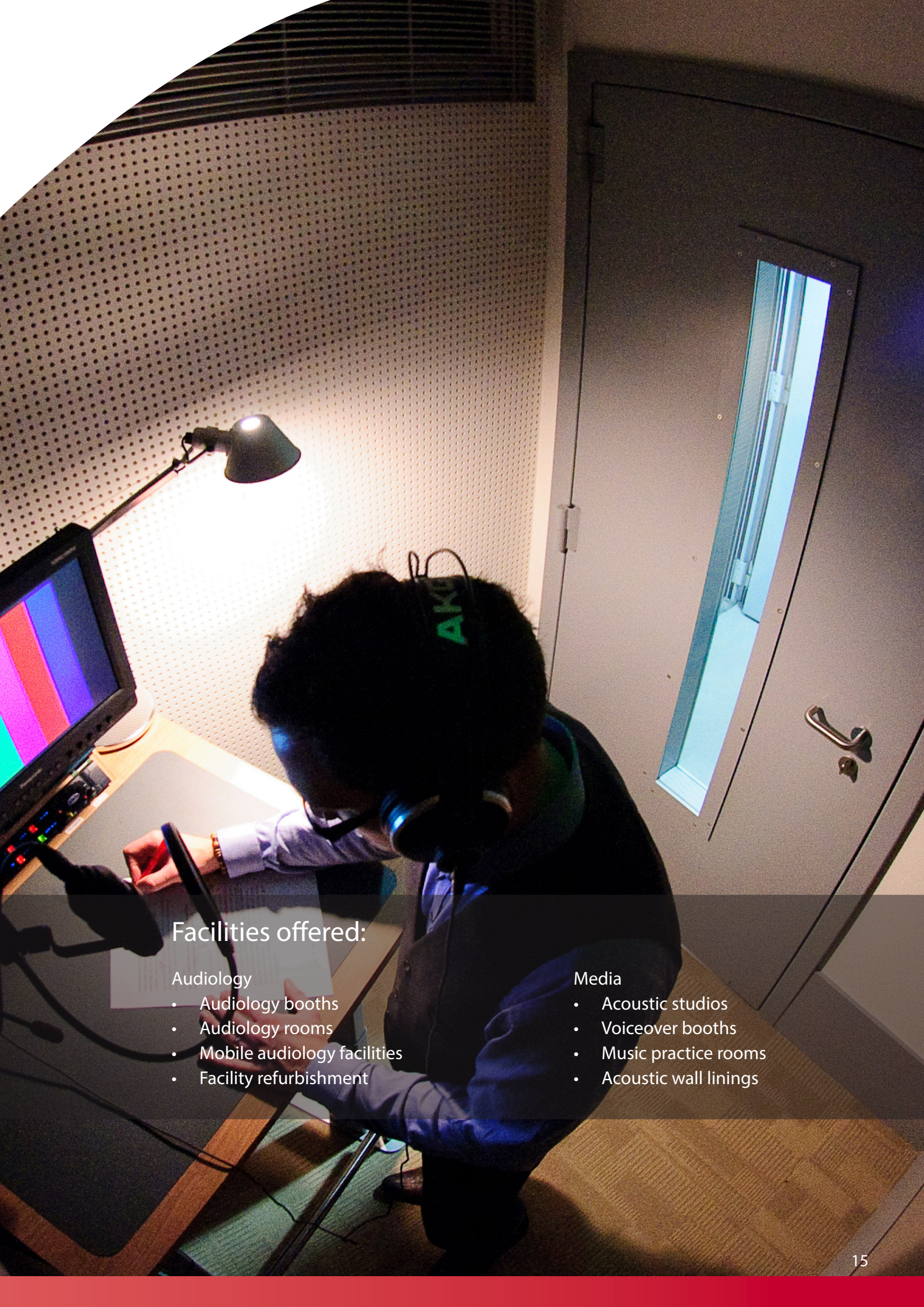
Specialist environments for testing, broadcasting and recording.

Our **audiology facilities** cater for all kinds of hearing examinations. Whether it is a booth used for regularly testing people working in noisy environments or a high performing room to diagnose a hearing problem, we can help. From creating quiet environments to containing noisy ones, we can provide standalone or integrated music practice rooms to allow aspiring pianists and drummers to work alongside each other in adjoining rooms without interference. We have also provided some of the best acoustic studios, voiceover booths and control rooms to the world's leading broadcasters. From the BBC to Bollywood, we have tuned, shielded and enhanced the acoustic performance of recording spaces around the globe.

Below left:
250 Series Mini
audiology booth

Right:
Acoustic voiceover
booth





Facilities offered:

Audiology

- Audiology booths
- Audiology rooms
- Mobile audiology facilities
- Facility refurbishment

Media

- Acoustic studios
- Voiceover booths
- Music practice rooms
- Acoustic wall linings



Key Products:

- Exhaust systems
- Thermal insulation blankets
- Internally lined pipework
- Air intake splitters and attenuators

Mining

Reducing the noise impact of mining machinery.

Mining by its very nature causes many different forms of unwanted noise. As fresh sources of coal, minerals and other raw materials are discovered, the impact of noise on people living nearby increases. With mines getting closer to populated areas, the need to reduce noise wherever possible is required to not only obtain planning consents but also reduce complaints.

Mining machinery such as excavators, haul trucks and loaders can all be given various treatments to reduce their noise impact. From silenced exhaust systems, to acoustically lined air intake attenuators and splitters, we can help reduce noise and also improve efficiency for workers, enabling them to operate in a quieter environment. In addition to making mines quieter, we can also improve safety by using internally lined pipework and thermal insulation blankets to reduce the contact temperature of exhausts, minimising the risk of fire.



Acoustic air intake attenuators and exhaust system

Contacts



Head Office - Chandlers Ford, UK
T: +44 (0) 1962 873 000
E: info@iac-uk.com



Israel
T: +972 894 284 83
F: +972 894 284 86
E: hna.info@iac-noisecontrol.com



Australia
T: +61 (0) 2 8781 0400
F: +61 (0) 2 9725 2939
E: info@iac-australia.com.au



Italy
T: +39 0445 575 669
F: +39 0445 575 002
E: italy.info@iac-noisecontrol.com



China (Dongguan Office)
T: +86 (0) 769 89899966 802
F: +86 (0) 769 89899966 810
E: china.sales@iac-china.com



Kuwait
T: +965 2294 2000
E: kuwait.info@iac-noisecontrol.com



China (SH Office)
T: +86 (0) 21 68825328
E: test@iac-china.com



Denmark
T: +45 36 77 88 00
F: +45 36 78 12 30
E: mail@iac-nordic.dk



Germany
T: +49 (0) 2163 9991 0
F: +49 (0) 2163 9991 23
E: deutschland@iac-gmbh.de



Ireland
T: +353 1 282 8043
F: +353 1 282 8427
E: ireland.info@iac-noisecontrol.com



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