

Robin Mackenzie Partnership

Excellence in Acoustics, Vibration & Energy

Education - Schools



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Hazelwood School, Glasgow
Architect: gm + ad architects

Robin Mackenzie Partnership

About Us

Founded in 1969, the Robin Mackenzie Partnership is one of the UK's largest acoustic and airtightness consultancies and a leader in its field. Here at RMP we consistently deliver innovative solutions which our clients value as both robust and cost effective.

Our company brochure gives an insight into the practice and presents examples of developments on which we are proud to have provided Air Tightness testing.

RMP also provides a range of other services:

- Building acoustic design
- Environmental and industrial noise control
- ANC accredited sound insulation testing
- Elmhurst Energy accredited air tightness testing
- Infra-red thermography
- Noise mapping
- Vibration control
- CPD training
- Product development
- Design animation
- Acoustic research



Our dedicated team delivers a high quality client-focused service at a reasonable cost. All RMP consultants are full members of the Institute of Acoustics while our directors hold fellowship status. RMP test engineers are accredited by the Association of Noise Consultants and the Elmhurst Airtightness Testing Scheme (EAS).

The practice has a very low turnover of staff which ensures consistency throughout major long-term projects.

RMP operates from [offices](#) throughout the United Kingdom undertaking projects of all sizes, many of national significance. Our [research](#) work is internationally recognised and has helped formulate national building regulations. Our client database includes the UK's leading construction companies, architects, product manufacturers, trade bodies and public sector bodies.

RMP for education

Acoustics play an important role in the learning and teaching environment. Poor acoustic conditions put strain on teachers' voices, increase stress levels and can negatively impact on the learning process. Good acoustic design can make a positive difference in reducing unwanted noise and enhancing the acoustic ambience.

The guidance document Building Bulletin 93:2003 (BB93) 'Acoustic Design of Schools' outlines the acoustic criteria for schools. This document is now widely used as the acoustic design brief for most new schools and colleges.

Acoustic consultancy for schools relates to three main areas:

- Control of external noise
- Control of internally generated noise
- Compliance testing

RMP have successfully completed the acoustic design of over 300 new school and college design projects throughout the UK in recent years.

Our areas of expertise include:

- Advising on appropriate noise levels and reverberation times for various activities and room types.
- Offering guidance on different criteria and design of specialist spaces such as music and drama rooms.
- Advising on façade design to provide adequate sound insulation and ventilation.
- Offering guidance on the control of plant noise and vibration.
- Providing specifications of the acoustic performance of doors, walls and glazed panels.
- Zoning 'quiet' and 'noisy' spaces and separating them where possible by distance and 'buffer' spaces such as corridors.
- Undertaking compliance testing measurements of ambient noise levels, sound insulation and reverberation time.

This section highlights our involvement in educational projects throughout the UK. For a comprehensive list of our education projects please visit the RMP website .



Image Courtesy of Corstorphine + Wright Architects

PROJECT: Leicester Schools BSF Programme

CLIENT: Galliford Try

ARCHITECT: Aedas, Corstorphine and Wright

OUR ROLE: The Leicester School Project comprised a series of schools with a combined value of £300 million for Leicester Miller Education Company under its Building School for the Future (BSF) programme. RMP provided full acoustic design services for the sixteen new and refurbished schools during Phase 1 and Phase 2.

The schools were all designed to meet the requirements of BB93 with a number of the schools incorporating specialist acoustic requirements such as audiosensory rooms to meet the special needs of some pupils, theatres and music accommodation.

Education projects



PROJECT: James Gillespie's Campus

CLIENT: Morrison Construction

ARCHITECT: JM Architects

OUR ROLE: Together with the Development Partner, hub South East Scotland Ltd, James Gillespie's is an educational campus for more than 1000 pupils aged 3-18, with a complex mixture of new build and refurbishment.

Set within the listed boundary walls of Bruntsfield House the Campus incorporates 5 new buildings arranged to relate to the centrally positioned listed building and provides educational, sports, leisure and community facilities.

RMP provided full design and acoustic services and worked closely with the project team to ensure that James Gillespie Campus successfully met the requirements of BB93.

PROJECT: East Calder Primary School

CLIENT: Morrison Construction

ARCHITECT: Norr Architects

OUR ROLE: RMP provided detailed acoustic design advice with client specific requirements and BB93:2015 as design guidance

RMP proposed a programme of site testing prior to project completion to verify that the design has met the project criteria. The scope of Completion testing included a survey of intrusive noise levels, sound insulation and reverberation time testing as well as plant and noise breakout testing.

The final Acoustic Compliance testing which, despite the open plan layout of the school, demonstrated a high degree of compliance with BB93 acoustic requirements.



PROJECT: Dalbeattie Learning Campus

CLIENT: Graham Construction

ARCHITECT: Holmes Miller

OUR ROLE: Together with the Development Partner, hub South West Scotland Ltd, Dalbeattie Learning Campus brings together Dalbeattie High School, Primary and Nursery Schools into one shared site. The campus is set as 4 teaching blocks clustered around a central social space with areas beside the Learning Campus developed for outdoor sports and teaching facilities. Dalbeattie Learning Campus was designed to also enable much greater use by the Dalbeattie community.

RMP provided full design and acoustic services and worked closely with the project team to ensure that Dalbeattie Learning Campus successfully met the requirements of BB93.

PROJECT: Largs Campus

CLIENT: North Ayrshire Council

ARCHITECT: JM Architects

OUR ROLE: Together with the Development Partner, hub South West Scotland Ltd, Largs Campus amalgamates St Mary's Primary, Brisbane Primary, Kelburn Primary and Largs Academy, accommodating more than 2000 pupils. The new state of the art campus consists of two theatres for both primary and secondary and one of the largest gym halls in the UK. The 3rd floor art classrooms have balconies with stunning views of Cumbrae, Bute and Arran enabling the provision for outdoor working.

RMP were commissioned to provide design advice and compliance testing for the new campus and worked closely with the project team to ensure that Largs Campus successfully met the requirements of BB93.



PROJECT: Lundavra School, Fort William

CLIENT: Graham Construction Ltd

ARCHITECT: Halliday Fraser Munro

OUR ROLE: Located on Lundavra Road, Fort William, with panoramic views over Loch Linnhe, the school replaces Upper Achintore and Fort William Primary Schools.

RMP were commissioned to provide full design and acoustic services to ensure that the school met the requirements of BB93.

PROJECT: Wick Community Campus

CLIENT: Highland Council

ARCHITECT: Ryder Architecture

OUR ROLE: Together with the Development Partner, hub NorthScotland Ltd, Wick Community Campus brings together Wick High School, South and Pultneytown Academy Primary Schools, Nursery, and Community facilities into one shared site. The campus consists of two senior school teaching wings as well as a separate primary school with its own access. Spaces between wings are external courtyards offering semi sheltered play space. There is also a special needs wing, sports block, library, swimming pool and fitness suite alongside three sports pitches.

RMP provided full design and acoustic services and worked closely with the project team to ensure that Wick Community Campus successfully met the requirements of BB93.





PROJECT: Arcadia Nursery, Edinburgh

CLIENT: University of Edinburgh

ARCHITECT: Malcolm Fraser Architects

OUR ROLE: Arcadia Nursery has three playrooms linked together by a single-storey building, with a large roof light offering views up to the tree canopy. A first floor area contains offices, staff and family rooms. Each of the playrooms opens out to a covered terrace.

RMP provided full acoustic services for the new nursery building that has been constructed using a combination of Cross Laminate timber and Lignatur flooring units to meet the requirements of BB93 and Hea 05 of BREEAM The nursery which was designed to help develop children's confidence, independence and creativity was winner of the RIBA award for Scotland 2015, and RIAS award 2015

PROJECT: Western Isles Schools Project

CLIENT: 3D Reid

ARCHITECT: 3D Reid

OUR ROLE: The Western Isles School Project comprised the renewal of a secondary school and four primary schools in the Outer Hebrides. In addition an all-through school has been substantially refurbished and extended. The schools are located on the Islands of Lewis, Harris, Benbecula and South Uist.

RMP provided full acoustic design services for the six new and refurbished schools. The schools have each secured BREEAM Excellent accreditation, one of the most comprehensive and widely recognised measures of a building's environmental performance.



PROJECT: Fife Schools

CLIENT: Miller Group

ARCHITECT: 3D Reid

OUR ROLE: We provided full acoustic design and services for eight new and refurbished schools across Fife. Some schools were designed to incorporate audio-sensory rooms to meet the special needs of some pupils. Acoustic assessments were carried out beyond standard BB93 requirements for all eight of the project's primary and secondary schools.

PROJECT: Hazelwood School, Glasgow

CLIENT: Glasgow City Council

ARCHITECT: gm + ad architects

OUR ROLE: We provided full design and acoustic services to ensure that the school's noise environment met specifications that went beyond the requirements of BB93.

The design had to take into account the variation of pupil needs, some of whom have profound hearing, vision and physical disabilities and are very sensitive to noise. The school incorporated features to introduce pupils to autonomous living. Additional acoustic requirements for these purposes included: optimising acoustic performance of areas where people moved from the interior to the external green space; and finding a balance between reducing high noise levels from a nearby busy road and providing adequate ventilation in the classrooms.



PROJECT: Borders Schools PPP

CLIENT: Graham Construction

ARCHITECT: 3D Reid Architects

OUR ROLE: RMP provided fully inclusive acoustic services for three new secondary schools in the Scottish Borders. We offered detailed acoustic design advice for each school to meet design specifications to include sound insulation, reverberation and building services noise control. We also undertook site inspections of key acoustic details of the buildings during the construction stage. Upon completion, we carried out partition sound insulation measurements to demonstrate compliance with BB93 criteria.

PROJECT: Forfar and Carnoustie Schools

CLIENT: Robertson Construction

ARCHITECT: JM Architects & Mackie Ramsay Taylor

OUR ROLE: This project involved seven new schools in Angus. RMP worked with the contractor Robertson Construction to provide full acoustic consultancy on the project. This included controlling external noise to ensure a suitable work environment within the schools and the acoustic design of separating walls, floors and partitions. We also reduced noise and vibrations in the schools and undertook compliance testing of ambient noise levels, sound insulation and reverberation time in teaching and common spaces.



Consulting services

We provide a wide range of acoustic consultancy services, using state of the art measuring equipment and computer software. Our highly qualified consultants guarantee a service of exceptional quality.

Sound Insulation - Testing and Diagnostics

RMP were one of the first companies in the UK to undertake sound insulation testing back in the late 1960's. Over the years we have built up an unrivalled wealth of experience in sound insulation and building acoustic design. We draw upon this experience when providing acoustical services for the refurbishment of existing buildings or the design of new buildings. As a result, our expertise in this area is now internationally recognised. Our staff have provided research guidance and technical support to government institutions and organisations from the UK to New Zealand.

RMP is registered on the Association of Noise Consultants Acoustic Tester scheme. This accredits RMP to undertake sound insulation testing for all building types and acoustic standards throughout the UK.

The practice also specialises in the assessment of acoustic defects, providing invaluable advice to clients who require to remedy complex acoustic insulation problems which can occur in new build developments, refurbishment projects or in response to resident complaints.

We consider the provision of good, economical and practical design advice to be our business. This is why we provide technical guidance and recommendations, when needed, as part of our core service.

Areas of expertise:

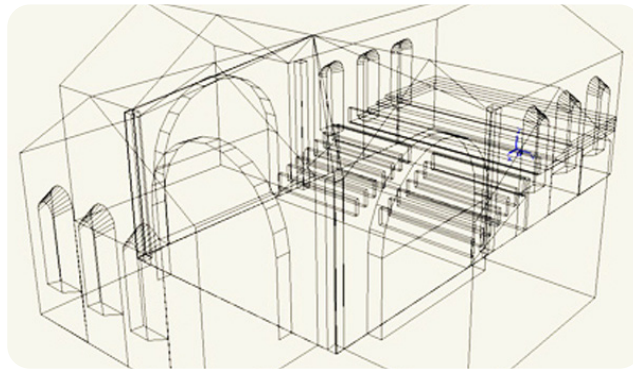
- Sound insulation testing on site (airborne and impact) - BS EN ISO 140, ANC registered, Robust Details inspectors, IOA Good Practice
- Schools - BB93
- Offices - BCO, BREEAM
- Hotels - Operator Brand standards
- Environmental Rating Schemes - BREEAM, Section 7, Homes Quality Mark
- Hospitals - HTMo8-01, SHTMo8-0
- Residential - Testing to Part E England and Wales
- Residential - Testing to Section 5 Scotland
- Cinemas and Entertainment Venues including Pubs and Clubs



Building Acoustics

More than just auditoria and concert halls, RMP help curate the ambiance within all of our new and existing built environment projects.

Our testing service ranges from small developer buildings and flat refurbishments through to multimillion pound residential flagship developments such as Quatermile in Edinburgh and the Great Northern Tower, Manchester.



Odeon wireframe acoustic model

Environmental Noise

With a pragmatic approach to impact assessment and mitigation provision, we balance the right for quiet spaces against the need for development. We carry out environmental impact noise assessments in support of planning applications, pollution control and in response to noise abatement notices.



Vibration

RMP can provide vibration isolation design advice for building isolation and internal acoustic design projects, supported with a range of vibration measurement methodologies and equipment. Our comprehensive engineering advice on problem resolution takes into account the long-term structural integrity and enhanced engineering performance.



Air Tightness Testing

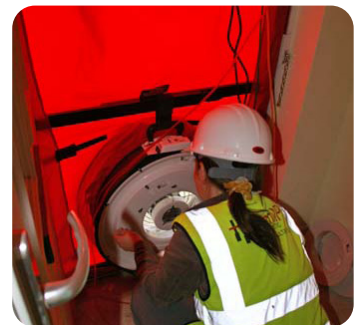
Airtightness testing is increasingly being requested by private developers, housing associations and social landlords, as a means of checking the energy performance and workmanship of dwellings. Unwanted air infiltration can account for up to 20% of a building's heat loss and reduces occupant comfort via draughts.

RMP provide a 'one-stop' consultancy service for both sound insulation and air tightness, simplifying the design and completion phases of a project.

We carry out air tightness testing for the domestic market using Elmhurst Airtightness Testing Scheme (EAS) accredited testers required for Part L1 England and Wales Building Regulations compliance testing. We also undertake commercial air tightness testing (volume dependant) and provide consultancy advice on design and detailing. The tests are conducted to the Air Tightness Testing Measurement Association's Technical Standard 1 (ATTMA TS1).

Areas of expertise:

- EAS accredited domestic air tightness testing to ATTMA TS1 requirements
- Part L complaint testing for the England and Wales Building Regulations
- Section 6, Energy, complaint testing for the Scottish Domestic Technical Standards
- Commercial air tightness testing
- Building fabric systems in relation to air tightness
- Design, detailing and construction consultancy services for air tightness
- Pressure loss diagnosis using building smoke testing and thermography



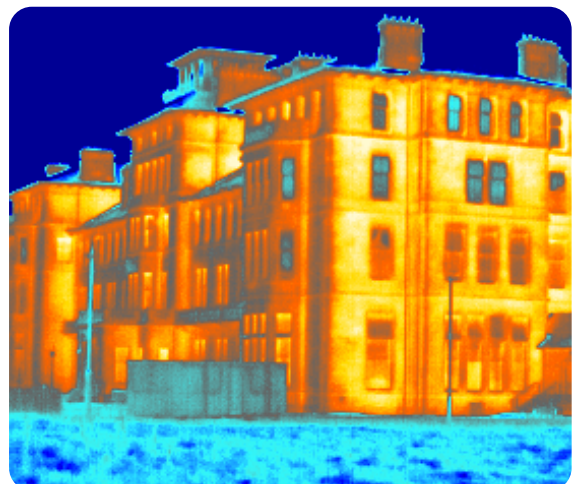
Infra-red thermography

Thermal imaging (or infra-red imaging) captures thousands of surface temperature measurements and converts them into an image. The service can identify air leakages, badly insulated areas and other construction problems. Therefore, it is often complimentary to air tightness testing. Thermal imaging has a wide range of applications in the building industry.

RMP operates a range of thermal imaging infra-red cameras to support our professional diagnostic services, software and detailed reporting. Our experience spans a wide range of activities.

Areas of expertise:

- Infra-red imaging of domestic dwelling
- Complex detailing of building envelope
- Evaluation of process energy system
- Diagnosis of building envelope defects
- Diagnosis of building pathology
- Assessments of energy heat loss



RMP is part of Edinburgh Napier University, bringing together a wide range of specialist expertise in construction innovation.

Our dedicated team delivers a high quality client-focused service at a reasonable cost.

Find out more about us: <https://rmp.biz/about-us/>

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