

## ACOUSTICS AT MZA

MZA Acoustics was formed in 2017 by Martin Raisborough and Graham Hornby, two former Directors at a top tier global engineering practice with a combined service of over 33 years. Between them, they have over 37 years of experience in the acoustic, noise and vibration industry and have played a key role in signature UK and international development projects.



Both Martin and Graham have a passion not only for their technical field of expertise, but principally being able to deliver their services in a way that is ‘hands on’ and focussed around an understanding of the wider needs and aspirations of their Clients. Through this philosophy, they have developed strong practical experience in the industry, allowing them to deliver technical guidance and solutions in recognition of, and in harmony with, wider commercial and technical constraints of a project.



## HOTEL CAPABILITY

One of the greatest issues for hotel developments resulting in complaints from customers is that of noise from neighbouring suites, from common spaces (function spaces, gymnasiums, etc.) impacting upon guest suites and from environmental noise intrusion.

At MZA, we have significant experience in assessing sound insulation performance requirements for separating walls and floors such that noise associated with the use of common spaces does not impact upon bedroom suites. Significant long-term implications can result if these issues are not adequately considered at the design stage. For example, and with regards to sound insulation performance requirements, we have significant experience in providing design advice to achieve minimum performance standards for a wide variety of build forms and configurations, minimising over design and thus resulting in cost savings on building materials in addition to space savings due to thinner, more acoustically effective, partitions.

**“Uncomfortable acoustic conditions can impact significantly upon a customer’s satisfaction of the hotel stay experience”**

With regards to external building fabric sound insulation, we are able to provide comprehensive design specifications to ensure suitable internal noise conditions are achieved within internal spaces. Suitable internal noise conditions are critical for hotels so that occupants are able to enjoy undisturbed sleep. Detailed



computational modelling techniques available to MZA allow us to assess the effects of noise at height, often resulting in lower sound insulation performance specifications at higher levels and, therefore, achieving cost savings for glazing units and alternative ventilation systems.

Although not strictly tangible in comparison to aesthetics, acoustics plays a significant role in this type of development: Uncomfortable acoustic conditions can impact significantly upon a customer’s satisfaction of the hotel stay experience. For example, in large open and high

occupancy areas, such as a restaurant, if adequate consideration is not given to controlling reverberation, a high build-up of noise can result (a ‘school canteen’ atmosphere) which can be uncomfortable and detract from an atmosphere of ‘quality’. MZA Acoustics are able to provide detailed design advice by means of computational acoustic models of such spaces in order that schemes for adequately controlling reverberation can be assessed and co-ordinated with design teams.

# SELECTED PROJECT EXPERIENCE

## SHANGRI-LA HOTEL AT THE SHARD, LONDON BRIDGE



Construction fee – circa £30million  
Client: Shangri-La Hotels

Martin was the principal acoustic design engineer providing detailed consultancy services for the fit out of the 5 star luxury Shangri La Hotel within The Shard of Glass at London Bridge.

The hotel occupies the middle third of the Shard of Glass structure, from floor 34 to 52, and incorporates a swimming pool, fitness centre, with associated conference and restaurant/lounge facilities.

A number of acoustic challenges were faced on this project, notably the very tight floor to ceiling heights for acoustic finishes and the abutments of partitions with the fully glazed external façade.

## THE HAYMARKET, EDINBURGH



Construction fee – circa £200million  
Client: Interserve / Tiger Developments

Graham was appointed as the lead acoustic engineer for a new mixed use development comprising 5 buildings with basement parking beneath. The development comprises; 340,000sq ft of office space in 3 of the buildings, spread over 20 floors, 49,000 sq ft of retail / leisure space, a 163 bed apart-hotel, a 190 bed hotel, an underground car park and new public realm.

The site is built directly above two railway tunnels serving both passenger and freight between Edinburgh Waverley and Edinburgh Haymarket stations and as such detailed vibration measurements and vibration isolation mitigation has been employed, involving whole building isolation solutions for the majority of the development.

## SHAH DAG RESORT GRAND HOTEL, AZERBAIJAN



Construction fee – circa £50million  
Client: Pasha Construction

Martin assisted Pasha Construction in the acoustic design of two five star luxury hotels, known as The Pik Palace hotel and The main Shahdag Hotel and Spa.

The hotels form part of a larger masterplan for the Shahdag Mountain Resort resort include exclusive villas, a shopping plaza and mountain top restaurant.

The main acoustic challenges on this project were in relation to sound insulation of the guest suites and the acoustic separation of noisy plant spaces from the public main public areas.

## HOTEL LA-TOUR, BIRMINGHAM



*Construction fee – circa £20million  
Client: Hotel LaTour / Galliford Try*

Graham was the acoustic design engineer on this project, providing a full suite of design services in support of the development of a contemporary 4-star Hotel next to Moor Street Station in Birmingham as part of the City Park Gate development.

The Hotel offers circa 200 rooms and approximately 12,000 sq ft of function and meeting room space capable of accommodating up to 200 delegates, a brasserie-style restaurant with open kitchen, bar, gym and events floor.