

## Apple stores

Complete

Area

Client

Architect

Worldwide

Apple

Foster and Partners

Sandy Brown has advised on the acoustic design for many Apple stores across the world, working in collaboration with Foster and Partners.

To date we have advised on 24 stores in 13 different countries. These include stores in historical buildings and on new-build sites.



Apple Inc © matcuz

## Services provided

Each store has an acoustic design that is tailored to meet its individual layout and design objectives. Typically, this has included consideration of factors such as:

- store and internal room acoustics
- internal sound insulation
- control of mechanical services noise and vibration
- external noise and vibration ingress
- car parks and noise generated by deliveries
- control of noise to / from adjacent tenancies.

## Special acoustic features

The Apple brand is synonymous with imagination, design and innovation. This identity is sustained in their retail stores with signature features that include stainless steel walls and wooden tables, and the inventive use of glass to create a sleek, modern environment is a prominent characteristic of almost every store.

Acoustically, this design aesthetic favours sound reflective materials and our challenge was to maintain the brand's iconic look and feel while incorporating flexible acoustic options that enhance the in-store experience. Detailed 3D modelling was used to provide advice on achieving the appropriate acoustic ambiance in line with the design aesthetic.

An important consideration is ensuring that Apple staff are protected from excessive Daily Noise Exposure (DNE) levels which can lead to hearing damage over time. The main area where this has potential to cause an issue is in the stores' front-of-house main retail areas where, even at peak times, intelligible conversation must be possible without raised levels of speech.

For each store a number of scenarios were modelled so it was possible to predict how it would perform in a variety of states. Looking at the store's expected noise levels when 50 per cent or 100 per cent full, for example, or when filled with 50, 100, 200 etc. customers informed our guidance on how to control reverberation in large, open spaces and advise on mitigation options suitable to the design.



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