

## Case study:

# Reducing Noise related Health risks with Construction Inflatables

### Summary

We prevent noise, and the pollution caused by it, through influencing design, isolating works, and by segregating contractors from direct sources of noise. On our recent fit-out project at the ICE Futures head office, our biggest challenge was eliminating noise, since it was working within an enclosed space, with multiple contractors and located within a fully occupied office block housing prestigious law firms.

Our first priority was to eliminate or reduce the noise where possible, but due to the nature of the fit-out this was difficult to manage. Prolonged exposure to noise was difficult to mitigate because the project had to be delivered internally, which required major cutting and drilling work to the fabric of the office. In addition to posing a risk for our people on site, our work would have caused major disruptions to the neighbouring offices. Without ear protectors, the project work may have had long term effects on the hearing of our neighbours as well.

London Diamond Drilling Services Ltd, Tier 1 supplier for Mace Como, the retail and commercial fit out arm of Mace.

### Problem statement

Noise caused by construction activities is a major occupational health risk affecting all personnel on site, as well as the neighbouring communities around our projects. Noise carries significant risks for hearing damage, as an estimated 10 million people in the UK are affected. By 2031, approximately 20% of the UK population will suffer some form of hearing loss and Mace is committed to reducing the work related cases through preventative measures.

### Solution / what you did

We identified noise as a significant occupational health risk at tender stage, during which we advised the client on the potential dangers around slab drilling and how to mitigate them.

Our solution was to install specialised construction inflatables, specifically designed to minimise the noise caused by cutting and drilling activities.

After consulting ICE Futures on the benefits and prior to beginning the work, we procured the inflatable booths through a Como Tier 1 subcontractor, London Diamond Drilling.

Introducing a policy of good housekeeping, which included using vacuum cleaners instead of brooms for cleaning.



Figure 1: Inflatable acoustic cutting station

### Key challenges faced

- Identifying noise at tender stage as a significant health risk that needed controlling.

### Outcomes and benefits

The inflatable booths offer noise protection up to 20dB, but also protect against various other occupational health hazards such as:

- Preventing against occupational lung diseases—the booths feature extract ventilation and filtration of dust, fumes, & vapours.
- Safeguarding our neighbours and members of the public by providing temporary hoarding and clearly segregating working areas.

- Reducing trip hazards by eliminating trailing leads via high level inlets.

### Measures of success

- Client satisfaction
- Noise levels reduced by 20dB
- Happier employees and other contractors working in close proximity.

### Lessons learnt

In all instances, we provide our people with appropriate hearing protection, such as muffs and ear buds. However, did you know that the performance of hearing protectors is often less than that reported on the packaging? Packaging advertises the level of protection with perfect use and contractors often remove protectors to communicate. As such, we recognised that our team needed further protection for internal works. For a minimal capital investment—equal to £5,500 on this occasion—we effectively protected our people and neighbours from the damaging effects of noise and dust exposure. The construction inflatables are a sustainable solution because they are reusable, fully recyclable, and require no further power after initial inflation. Further to client satisfaction, we have continued to use inflatable booths on our Como projects due to the effective protection we can offer our contractors in internal, occupied spaces. After the success at ICE Futures, we are confident that we will drive down the percentage of hearing conditions expected by 2031, one booth at a time.

• **Contact details**

• [Aisling.Padden@macegroup.com](mailto:Aisling.Padden@macegroup.com)

• [London Diamond Drilling Service Ltd](#)