

Sound Insulation Testing and Acoustic Design

Preliminary sound insulation testing was undertaken on the existing floors to determine how close they were to achieving Approved Document E criteria. To do this, we required spaces of a similar size to a residential bedroom or living room, rather than the large open space of the mill in its current state. The client set to work constructing small plasterboard test rooms on several floors.

We also provided ongoing advice to comply with a planning condition to control internal noise levels to BS 8233:2014 criteria. The client had a noise assessment from the outline stage but required advice to make sure that their proposals were in line with the noise assessment and planning condition.

Once extensive strip-out works were completed, a further site visit to test the existing floor constructions was undertaken. Based on the test results, we were able to provide design advice with a much higher degree of certainty, resulting in a more economical design for the client.

Action and Outcome

The first 12 sound insulation tests required for the development to obtain Building Regulations approval were undertaken in November 2021. All the tests passed and this provided the client with peace of mind that the recommended mitigation measures worked effectively.

Further subsequent testing has also proved the sound insulation is achieving the requirements of the Building Regulations.



Background

Meadow Mill was originally built in the 1870's and used for cotton and wool spinning. The seven storey building is of brick construction with internal arcade ceilings. The mill's interior structure consists of cast-iron lengthwise and crosswise beams with brick arches.

The development was to be converted into 200 apartments with mixed use development on the ground floor.

Proposition

Miller Goodall were requested to provide construction design advice for planning as well as to address Building Regulations Part E for sound insulation purposes. The building had specific issues in relation to noise which required close attention. The cast iron columns running through the building in particular were a potential flanking concern. The client also wished to maintain the brick arches to the ceilings.

For planning purposes, the site also required external noise to be addressed in relation to plant noise and controlling internal noise levels from the M60 motorway located close-by.



Meadow Mill,
Stockport
Conversion of
Former Mill into
Apartments
Acoustic Design