20 January 2009

Office Extra Ltd

Preliminary Acoustics Report

Further to our communications of 12 January 2009, I understand that the acoustics within the space conversion to open plan office are the cause for concern. The existing factory building has an office on the second floor which provides a space for the sales team and management. The main complaint has been the interruption of activities and disturbance to office workers caused by sales calls and other conversations in the space. In addition, there is no existing space in which the management meetings can take place without the staff overhearing what is being spoken about. The managing director also wishes to be afforded more privacy in his workstation within the open plan office. Since this room involves communication a high level of speech intelligibility is required and it is essential that the reverberation time is lowered. It is also essential that speech privacy be taken into account in the design of the space.

A limited amount of absorption and diffusion is currently provided in the existing space. While a carpet exists in the space, this is not acoustic and is of little benefit. The ceiling comprises a grid system with 1200 x 600 non-acoustic mineral fibre ceiling tiles. Screens in the office are non-acoustic and there are no blinds or curtains over the windows which cover a significant amount of wall space. It is understood that since the space is rented, the client would like all solutions to be demountable and moveable so that in the event of relocation, they can be moved. The suggested solution includes the use of combinations of acoustic screens, wall panels, acoustic blinds, along with some elements of acoustic wall storage. The option of an acoustic carpet is also provided.

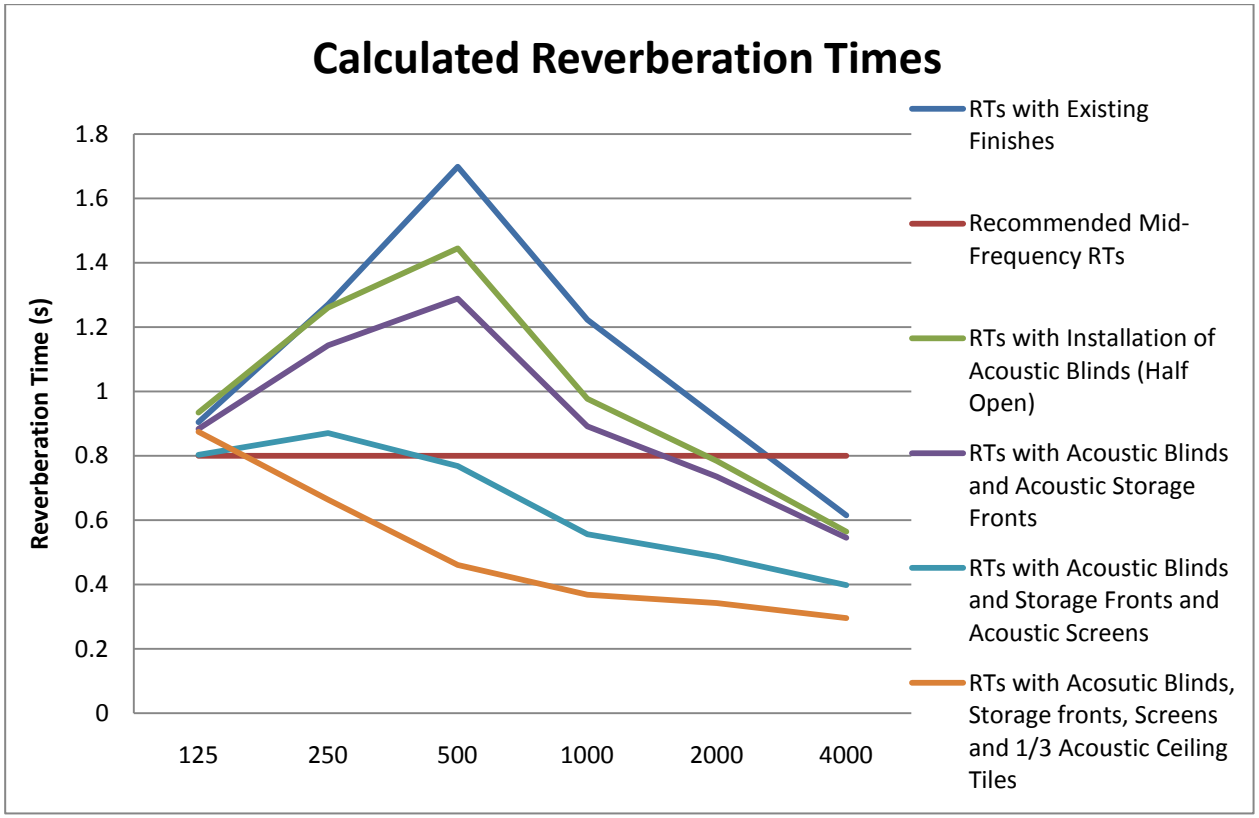
A reverberation analysis was carried out using the information provided. An exact type of ceiling tile could not be identified, so values of a similar mineral fibre ceiling tile were used in the calculation.

Office Extra Ltd · 44 Queensberry Avenue · Copford · Colchester · Essex · CO6 1YN
Freephone: 0800 678 3418 · Fax: 01206 212694 · info@offxtra.co.uk · www.officextra.co.uk

Reverberation Analysis Results

The results of the calculated reverberation times at each of 6 frequency bands are displayed on the graph below. These results indicate reverberation times that are significantly higher than the ideal values for the given spaces.

The suggested reverberation times for mid frequencies in the unoccupied space should fall below 0.8 seconds within this room.



Office Extra Ltd · 44 Queensberry Avenue · Copford · Colchester · Essex · CO6 1YN
Freephone: 0800 678 3418 · Fax: 01206 212694 · info@offxtra.co.uk · www.officextra.co.uk

Results and Recommendations

1. The results indicate the need for at least 260 additional acoustic absorption points to be added to the office appropriately.

2. For the control of reverberation and noise levels, the following finishes are recommended:

   - The addition of acoustic blinds to the office windows. It is not realistic to assume that the blinds will be fully closed throughout the day; therefore the calculation has included values for partially closed blinds.

   - The replacement of existing tambour fronts with acoustic tambour and the replacement of the existing wall storage doors with acoustic storage fronts.

   - The addition of acoustic screens between and adjacent to work stations to a minimum height of 580 mm above desk height.

3. For the control of speech privacy

   - Desk mounted and floor standing screens should be at least 580 mm above desk level, however, for increased speech privacy, desks should be at least 1600 mm above finished floor level. Screens should be placed on the return of each desk as well as between desks. Where eye contact is required between the sales team, a vision panel may be installed within the screen.

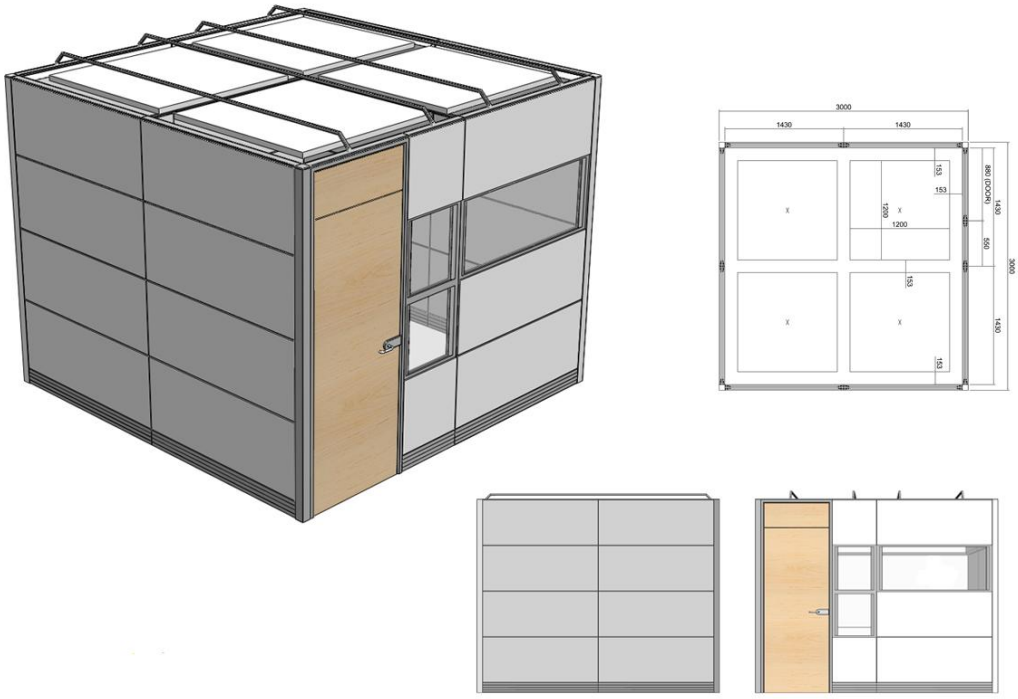
   - For more private spaces (i.e. the managing director's workspace and technical staff), screens are required to have a solid element within them and acoustic foam on either side. In particular, the screens surrounding the managing director's desk should be 1800 mm above finished floor level for increased acoustic privacy.

   - The points score does not call for the installation of acoustic ceiling tiles in order to control reverberation; however, in order to receive the most benefit from screens, for increased privacy, the ceiling above the screens should be highly absorbent. It is

Office Extra Ltd · 44 Queensberry Avenue · Copford · Colchester · Essex · CO6 1YN
Freephone: 0800 678 3418 · Fax: 01206 212694 · info@offxtra.co.uk · www.officextra.co.uk

therefore recommended that the existing mineral fibre tiles be replaced by glass fibre acoustic ceiling tiles (edge A) above areas where privacy is deemed important.

- Since it is impractical to install dry wall partitioning in order to create a management meeting room, the 5.2 ‘offices within offices’ system is recommended using 40 mm acoustic foam on the inside with standard fabric covered MDF on the outside. The configuration is shown below:



This system is demountable and moveable and therefore the client will be able to reinstall it in any new premises. In addition, due to the open configuration of the ceiling, it does not infringe upon fire regulations and does not require additional air conditioning.

Office Extra Ltd · 44 Queensberry Avenue · Copford · Colchester · Essex · CO6 1YN
Freephone: 0800 678 3418 · Fax: 01206 212694 · info@offxtra.co.uk · www.officextra.co.uk

Please note: The above suggestions are flexible and alternative solutions and products may be discussed.

Please contact me should you require further information.

Yours Sincerely

Rosalind Lambert-Porter

Acoustician / Audiologist

Acoustics at Work

Note: This is a brief report on findings of Reverberation Time calculations for the above venue. It may not be circulated without the permission of Screens at Work. It may not be used for legal purposes.

Office Extra Ltd · 44 Queensberry Avenue · Copford · Colchester · Essex · CO6 1YN
Freephone: 0800 678 3418 · Fax: 01206 212694 · info@offxtra.co.uk · www.officextra.co.uk