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Time and flexibility: How temporary walls (might) give your office space the best of both - by Ioana Pieleanu

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Ioana Pieleanu,
Acentech

If someone were to ask me what I consider the most valuable life asset to be, I would have to say time. The second: flexibility. While, as a society, we are increasingly up against the berated 'time crunch,' when it comes to flexibility we are usually wanting more. Which brings me to today's topic: flexibility of the office space.

Office flexibility can have many facets, intended on one hand to attract and retain talent and encourage collaboration, and on the other hand to allow companies to run their facilities more efficiently. Work flexibility can mean different things now: working from home; hoteling, where one occupies an office desk on a first come first served basis; or of having the option to reconfigure space layouts as desired. When it comes to acoustics, this option of reconfiguring office space is of most interest to us.

Let's say we have a bank of adjacent private offices, but depending on employees occupying them at a given moment, the facilities manager wants to have the option to move a wall left or right, in order to allow one office to become larger than the other. Or, given the operations' flexible needs, that same facilities manager may face the request of coming up with additional collaboration space. In that case, he or she may remove a wall separating two adjacent offices in order to provide a meeting room. These are not hypothetical scenarios – as acoustical consultants, we have seen them implemented again and again. When this kind of flexibility is demanded by clients, often times the design team makes use of demountable partitions.

There is a crowd of manufacturers claiming their demountable wall systems are more durable, easier to install, prettier and, last but not least, provide better sound isolation. A wall that can be easily moved or removed is also quite light and unsealed, which allows sound to travel effectively, despite a wall system's considerable visual design features.

In order not to make this exercise in flexibility an acoustical fiasco, here are a few things to keep in

mind when working with demountable partitions:

1.) If a partition stops at the underside of the ACT ceiling, the sound isolation between the separated spaces will be only as good as the sound isolation through that ceiling, even if the wall panels may otherwise have better performance. To optimize performance, the tops of demountable walls should seal tightly to a gypsum wallboard soffit. At minimum, the tops of the walls should have a gasket system that compresses against the tiny gaps formed by the ACT grid, in order maintain the sound isolation.

2.) If a partition has a door in it, the sound isolation will be only as good as the performance of the door. In that case, evaluating the STC performance of the demising wall panels alone will not be of much value. The manufacturer should ideally provide field test data to show that the door closes tightly and the gaskets perform effectively, whether the door slides or swings. For reference, a typical framed swinging door with a well-installed full perimeter gasket system, performs around NIC 30. [NIC is a single-number rating that describes sound isolation performance of an as-built construction; it differs from a Sound Transmission Class (STC) rating in that the latter is a laboratory measurement performed under ideal conditions. NIC ratings are generally about 5 to 8 points lower than STC.]

3.) If a wall extends only to the underside of the ACT ceiling and/or it has a door in it, it is critical to use an electronic sound masking system, in order to achieve “confidential speech privacy” (where conversations may be occasionally heard but not understood.)

4.) If the use of a sound masking system is not suitable for a given space (e.g. in conference rooms these systems are not appropriate as they interfere with the need for speech intelligibility), another method of improving the sound isolation of the demising wall needs to be found. In general, a stick built demising wall for conference rooms will achieve a minimum STC 50 rating. (Demountable partitions are rated between STCs in the upper 30s and STC 50.) But remember - if the wall stops at the underside of the ACT ceiling, the sound isolation will be only as good as that of the ACT. In that case, plan for a drywall plenum barrier that stops the sound traveling through the ceiling plenum and (along with the ACT ceiling) performs on par with the demountable wall.

5.) While sound masking may not be suitable inside a conference room, it may be needed outside of it, to prevent overheard conversations from the corridor. In this case, properly calibrated sound masking hinders those outside of closed spaces from hearing conversations emitting from the other side of the wall.

If these guidelines are followed and the demountable partitions are installed properly, it is very likely that confidential speech privacy will be achieved, whether in private offices or meeting rooms. On the other hand, if demountable wall systems are designed and installed poorly, acoustical privacy will suffer, resulting in low employee satisfaction, loss of productivity, and in some cases, unintended breaches of confidential information. In our experience, communicating space planning needs with your design team early and up front is always a sound plan.

Ioana Pieleanu is principal consultant, acoustics at Acentech, Cambridge, Mass.

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