



- ◆ Works with any “T-bar” acoustic tile system
- ◆ Easily installs over existing acoustic tiles, inside suspension cavity
- ◆ Cuts on-site using circular or table saw
- ◆ Never wears out, giving years of trouble-free service
- ◆ Meets Class A flame spread rating in accordance with ASTM E-84

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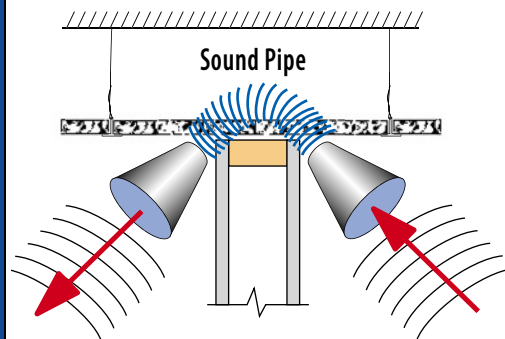
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Isolating Partition Walls with IsoTile

The IsoTile Ceiling Panel can be used to isolate partition walls for both new construction and as a retrofit to existing construction.



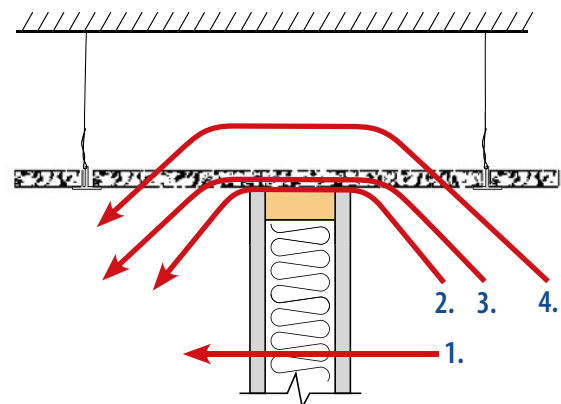
Why Typical Partition Walls Leak Sound

The easiest way for a suspended ceiling to be installed is without any partition walls. Typically, partition walls go in after the suspended ceiling is complete, and they stop just short of the ceiling tile, leaving a small gap. Sound is collected in the newly formed corner, just like a megaphone collects sound. This concentrated sound pressure is then sent through the gap where it is released

on the other side, again just like a megaphone.

No Privacy

Sound can leak through a partition via 4 possible paths. Potential sources include through the wall (1.), through the top plate gap (2.), through the ACT (3.), or through the cavity above the ACT. Even if there is no plate gap, or the gap is sealed with caulk, sound still goes through the ceiling tile and jumps over the wall. We call this flanking sound transmission (2., 3., and 4.), and every partition wall in a suspended ceiling office suffers from these shortcomings unless they are addressed. Complaints go out to the contractor who apologetically tells the client that nothing can be done about it. ASC has a better answer.



How it Works

Noise is blocked and absorbed by the IsoTile. Even so, sound can transmit through ceiling tiles and the partition wall via resonant transmission. ASC Engineering studied the question, and used IsoTile to address the issues of flanking and resonance. ASC designed engineered assemblies for both existing as well as new partition walls.

Both new construction and retrofit of existing construction can benefit from the addition of IsoTile partition walls. We estimate an STC of better than 45 with IsoTile, compared to an STC of 30-33 for typical partitions. That is a big improvement.



Existing Partition Wall

To increase the CAC of existing partition walls, IsoTiles are used to absorb and block flanking sound transmission. The ACT that spans the partition wall is cut to expose the top plate of the wall. Then IsoTiles are site cut to fit vertically above the top plate, rising at least 12" into the ceiling cavity. Cutting IsoTiles is easily accomplished using a circular saw, being sure to seal any cuts using spray glue and Typar. Then IsoTiles are site cut to fit remaining ACT. Acoustic sealant can also be applied to seal any gaps in the wall/ceiling corners.

Following this procedure is preferred over simply spanning the partition with an IsoTile. This is because sound can flank through the ACT and even through the horizontal spanning IsoTile, resulting in a lower CAC number.

New Partition Wall

New construction is a variation the above engineering. **Option A** shows the basic assembly, with the top plate of the partition wall ending 4" below the ACT grid. Vertically placed IsoTiles rest on the top plate, extending at least 12" into the ceiling cavity. WallDamp strips and squares are added to both sides of the 1/2" gypsum board, and a second layer of 1/2" board is added. The top of the second layer extends past the top plate to line up with the ACT grid and act as a support for partial tiles. Finally, IsoTiles are site cut to fit the partial tiles.

The WallDamp feature adds damping which effectively increases low frequency soundproofing.

Option B extends the partition wall 6" above the ACT grid to address flanking issues using the wall itself. A continuous "L" bracket is attached to both sides of the wall, lining up with the ACT grid. Partial tiles are cut and installed, followed by site cut IsoTiles.

