

Sound attenuation plays a critical role in many of our projects, as meeting the acoustic performance requirements is a top priority for designers and owners. Resilient channels are frequently utilized to achieve these sound attenuation goals, but their effectiveness relies on proper installation. A thorough understanding of the system's complexities and specific requirements is essential for a successful installation; however, many specifications and drawings lack the necessary detail to address all the critical installation requirements, which can lead to challenges in achieving the desired acoustical expectations.

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Common Failures:

Installation of Resilient Channels:

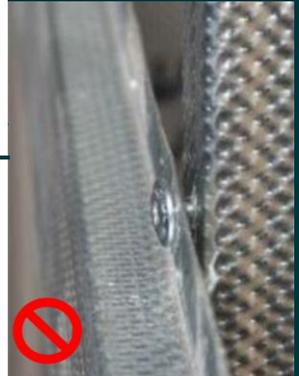


Proper splice over stud



Proper RC installation

- ❑ It's important that RC should be installed mounting flange down, except at the base of the wall and opening heads. When the RC is installed upside down, the weight of the drywall pushes the channel into the studs (instead of pulling it away from the studs when installed properly) thus causing a short circuit in the wall, resulting in poor sound insulation.
- ❑ Locate RC within 2" of the floor and opening heads.
- ❑ Locate RC no more than 6" from the ceiling.
- ❑ Install RC on studs no greater than 24" o.c. when studs are 16" o.c. and 16" o.c. when studs are 24" o.c.
- ❑ Install RC on the ceiling at 16" o.c. when joists are 24" o.c. or 24" o.c. when the joists are 16" o.c.
- ❑ DO NOT install wood blocking at the base of the wall for installation of baseboards.
- ❑ DO NOT install RC over existing drywall. This will greatly reduce the RC effectiveness.
- ❑ Installation of ends of RC are either butted, leaving 1/16" gap between ends OR nested & screwed over stud.
- ❑ RC should not be used on walls that will support cabinets, bookshelves, TV, grab bars, etc. **If this is specified, we need to RFI Architect**, as we will need to install solid wood blocking at these locations, effectively eliminating the effectiveness of the RC itself.
- ❑ Review the Installation of wood blocking. If wood blocking is needed, must review with the architect to discuss the sound issue, as well as the unsupported length of the fastener going into the wood.
- ❑ No more than two layers of up to 5/8 in. gypsum panel products should be installed to RC.
- ❑ Resilient channels can cantilever a maximum of 6 inches. This may vary by manufacturer and the profile of the intended channel.



RC Fasteners NOT fully engaged



Watch out for drywall fasteners going through the metal studs...which will short circuit the system



RC should be located with the flange down to properly support the drywall, not putting weight against the metal studs.



RC is installed 12" above door head, which is allowing the drywall to span over 2". The RC should be located NO more than 2" above the opening.

Installation of Drywall on RC:

- ❑ Make sure that the drywall fasteners are not too long where they will come in contact with the studs. The proper screw length for attaching a single layer of gypsum board to resilient channel is 1 inch; the screw length used to create a short circuit is 1-5/8".



Proper RC installation in the field and bottom of wall.

- ❑ To meet fire resistance requirements, the channel and the gypsum panels should extend through any inside corners, meaning through the intersecting stud cavity and be attached to the very last stud. For outside corners, leave a small gap between adjacent channels. The suggested method for gypsum panels in multi-layered systems would be to "stair step" them.
- ❑ When installing baseboards, many contractors place a wooden block to reinforce the bottom edge of the drywall. If this is done, the drywall is structurally locked to the studs, and the RC is not effective. This is not recommended unless specifically addressed by the Architect.
- ❑ When adding a 2nd layer of drywall, this should be done on the other side of the wall.
- ❑ If this is a rated wall with intumescent track. The top of the wall will need a solid section to comply with the fire rated head of wall.