

## RC-1 Resilient Sound Channel

### Applicable Standards and References

- ASTM C754 Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products
- ASTM C840 Standard Specification for Application and Finishing of Gypsum Board
- Gypsum Association GA-216

### Job Compliance Considerations

- Framing and furring members shall be installed as required to meet design or building code loading requirements.
- Where a rated system is specified for the project, the rated system must be followed.

### Ceiling Installation

#### **General Guidelines**

RC-1 resilient Channel should be installed at right angles to the joists or trusses 16" (406 mm) center on center when the joists or trusses are 24" (610 mm) on center. When the joists or trusses are 16" (406 mm) on center the resilient channel can be installed up to 24" (610 mm) center on center. See Table 1 on Page 2 from Gypsum Association GA-216-2007 for Maximum Framing Spacing For Single-Layer Gypsum Panel Product.

Start applying the resilient channel with the center a maximum of 6" (150 mm) from the wall. On ending at the other side stop the last course of resilient channel a maximum of 6" (150 mm) from the wall. When using RC-1 resilient channel on the ceiling have the open side all going the same direction. On ending at the other side stop the last course of resilient channel a maximum of 6" (150 mm) from the wall. This may require the spacing between the last two rows to be less than 16" (406 mm) or 24" (610 mm) whichever is being used. Stop the resilient channel at least 1" (25 mm) from the adjacent wall.

#### **Fastening Guidelines**

To fasten the resilient channel to wood studs use 1-1/4" (32 mm) Type W or 1-1/4" (32 mm) Type S screws. For steel joists or trusses 3/8" (9.5 mm) Type S pan head screws should be used. Nails are not recommended. To fasten the drywall board to the resilient channel use 1" (25 mm) Type S Buglehead screws every 12" (305 mm). Screws should not come in contact with the stud, joist or truss. A maximum of two 5/8" (15.9 mm) boards should ever be fastened to resilient channel.

#### **Splicing Guidelines**

Splice channels directly over a joist or truss by nesting the two channels at least 4" together prior to driving screws through the flanges of both channels.

### Wall Installation

#### **General Guidelines**

RC-1 resilient channel should be installed at right angles to the studs spaced no more than 24" (610 mm) center to center. The mounting flange should be down as this allows the board to keep the resilient channel open on top permitting the resilient channel to do the best job possible. A layer of gypsum board 1/2" (12.7 mm) x 3" (76 mm) can be installed instead of the RC-1 at the bottom of the wall. The row closest to the floor should be no further from the floor than 2" (50 mm) and it may be installed flange up for ease of installation. The row of resilient channel closest to the ceiling should be no further than 6" (150 mm) away from the ceiling. All of the resilient channel needs to be 1" (25 mm) away from the adjoining wall. See Table 1 on Page 2 from Gypsum Association GA-216-2007 for Maximum Framing Spacing For Single-Layer Gypsum Panel Product.

See Page 2 for Fastening and Splicing Guidelines.

## RC-1 Resilient Sound Channel

### Wall Installation (continued)

#### Fastening Guidelines

To fasten the resilient channel to wood studs use 1-1/4" (32 mm) Type W or 1-1/4" (32 mm) Type S screws. For steel joists or trusses 3/8" (9.5 mm) Type S pan head screws should be used. Nails are not recommended. To fasten the drywall board to the resilient channel use 1" (25 mm) Type S Buglehead screws every 12" (305 mm). Screws should not come in contact with the stud, joist or truss. A maximum of two 5/8" (15.9 mm) boards should ever be fastened to resilient channel.

#### Splicing Guidelines

Splice channels directly over a joist or truss by nesting the two channels at least 4" together prior to driving screws through the flanges of both channels.

Table 1 Maximum Framing Spacing For Single-Layer Gypsum Panel Product		
Gypsum Panel Product Thickness in. (mm)	Gypsum Panel Product Orientation to Framing	Maximum Framing Spacing in. (mm) o.c.
Ceilings:		
3/8 (9.5) <sup>A</sup>	Perpendicular <sup>B</sup>	16 (406)
1/2 (12.7)	Parallel <sup>B</sup>	16 (406)
1/2 (12.7)	Perpendicular <sup>B</sup>	24 (610)
5/8 (15.9)	Parallel	16 (406)
5/8 (15.9)	Perpendicular	24 (610)
Walls:		
3/8 (9.5)	Perpendicular or Parallel	16 (406)
1/2 (12.7)	Perpendicular or Parallel	24 (610)
5/8 (15.9)	Perpendicular or Parallel	24 (610)
<sup>A</sup> Shall not support thermal insulation.		
<sup>B</sup> On ceilings to receive hand or spray-applied water-based texture material either i) 1/2 in. (12.7 mm) gypsum ceiling board (ASTM C 1396/C 1396M shall be applied perpendicular to framing; or ii) other gypsum panel products shall be applied perpendicular to framing and board thickness shall be increased from 3/8 in. (9.5 mm) to 1/2 in. (12.7 mm) for 16 in. (406 mm) o.c. framing and from 1/2 in. (12.7 mm) to 5/8 in. (15.9 mm) for 24 in. (610 mm) o.c. framing. See Appendix A.2.		

**Table Source:** Gypsum Association. *GA-216-2007 Application and Finishing of Gypsum Panel Products*. Retrieved 2/20/09 from <<http://www.gypsum.org/pdf/GA-216-07.pdf>>.

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