



Phillips Manufacturing RC Certification Program

Created By:

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A little about Phillips...

We're the Accessories "Specialists"

We're your one-stop shop- a national single-source manufacturer for all drywall finishing beads and trims, as well as channels, framing components, stucco accessories and roofing accessories

We've been doing it right for 60 years

Small enough to focus on each product and each customer

Big enough to buy the best materials and develop the best products

We're there for you when you need us

Manufacturing and distribution nationwide, including two-step distribution

Phillips Mission

"Lead the industry in delivering innovative products and services that add value to our customers and build their long-term success"



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What's the benefit of Phillips RC?

It is important to distinguish acoustically effective resilient channels from hat channels, Z-channels and other lightweight metal furring systems that you are accustomed to installing.

These other systems may resemble resilient channels, but they allow no movement and are simply too rigid to be effective. Only true resilient channels have any acoustical benefit.

All products featured in this lesson are field and lab tested to be IBC 2012 STC-compliant.

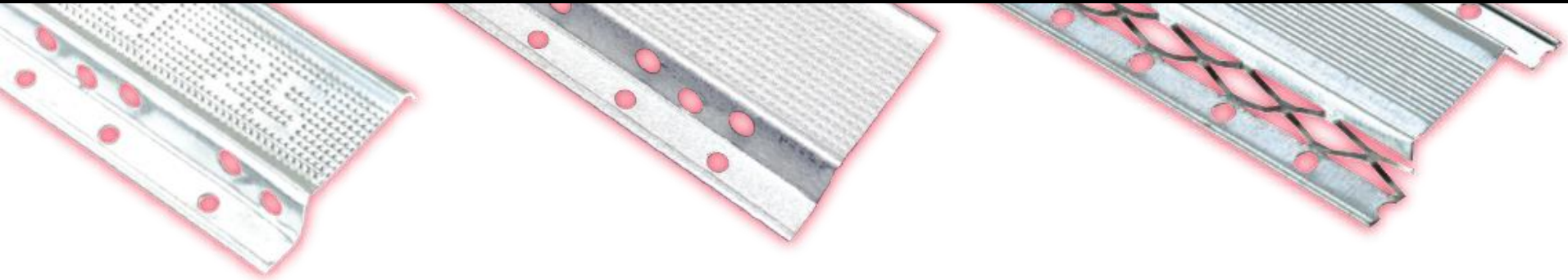
The following slides list a recommended installation, but any and all installations specified by architects, such as UL assemblies, or any system assemblies, must be followed 100%



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Phillips Resilient Channel Products



RC-1 Tru-25[®] Gauge

Deeply knurled for positive screw placement and wandering elimination. Lab-Certified.

Preferred by contractors for easy installation

Also available in Standard Duty and WeathEx[®] Tru-25[®] (extra surface coating for corrosion prevention).

RC-XL

Deeply knurled for positive screw placement and wandering elimination. Lab-Certified.

Optimized for maximum sound reduction

RC-2 Two Leg

The only RC with 2 expanded legs for exception strength and sound reduction

Same 1/2" channel depth and is manufactured with 25 gauge galvanized steel.

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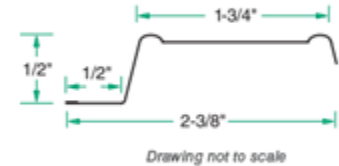
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Technical Specifications



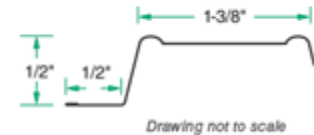
RC-XL

- RC-XL has a minimum design thickness of .020"
- Qualifies for 30 UL assemblies
- LEED Credits for Recycled Content



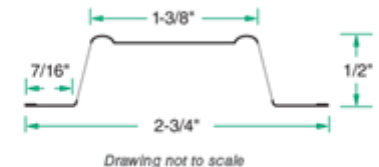
RC-1

- RC-1 Standard Duty has minimum design thickness of .018"
- RC-1 Tru-25[®] has a minimum design thickness of .021"
- Prevents ridging and cracking in ceilings
- Use up to 2 layers of 5.8" wallboard for ceiling applications



RC-2

- Expanded metal for sound control
- Two attachment legs for worry-free installation
- 1" spaced holes in leg flanges to facilitate fastening to framing members
- One screw per attachment point, alternating flanges- r extra fasteners



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Additional Perks

Quicker Install than Other RC's

Same installation, but with less scrap due to fewer alignment requirements.

Best Value

Lab-Tested sound reduction

High quality manufacturing and materials

National Distribution



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So...What is Resilient Channel?

When and Why was RC invented?

Originally designed to avoid cracks in drywall ceilings where the direction of framing changes in the 1960's.

What's it made of?

RC consists of a thin, hot-dipped galvanized steel. Galvanized coating is the process of dipping fabricated steel into a kettle containing zinc, reacting to form a tightly-bonded alloy that provides superior corrosion protection to steel.

What's it look like?

Reminiscent of hat channels, resilient channels measure about a ½ inch in thickness, and the wide flange (drywall mount) is about 1 ¼ inch wide.

Note: Resilient Channels should meet or exceed ASTM C 645 Standard Specification for Nonstructural Steel Framing Members

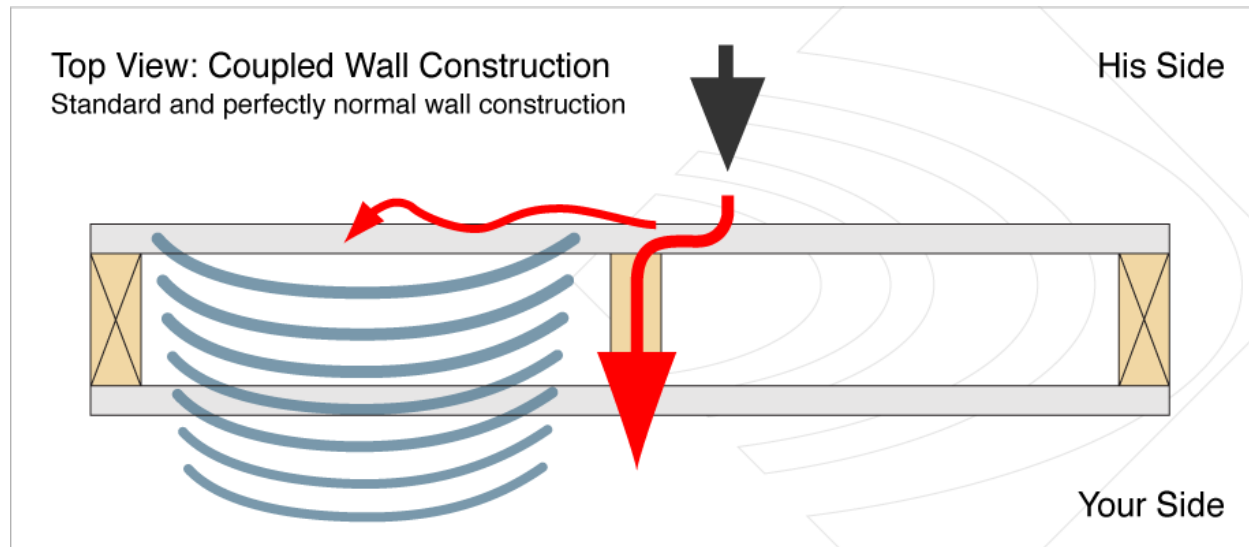


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How does RC work?

As you know, partition walls are constructed of Drywall (Sheetrock/Gypsum Board) firmly attached to both sides of a wood or metal stud frame.

When sound waves hit one side of the wall it causes the drywall on that side to vibrate. Since the drywall is rigidly connected to the stud frame, the vibration is transmitted right through the studwork to the drywall on the other side and re-radiated.



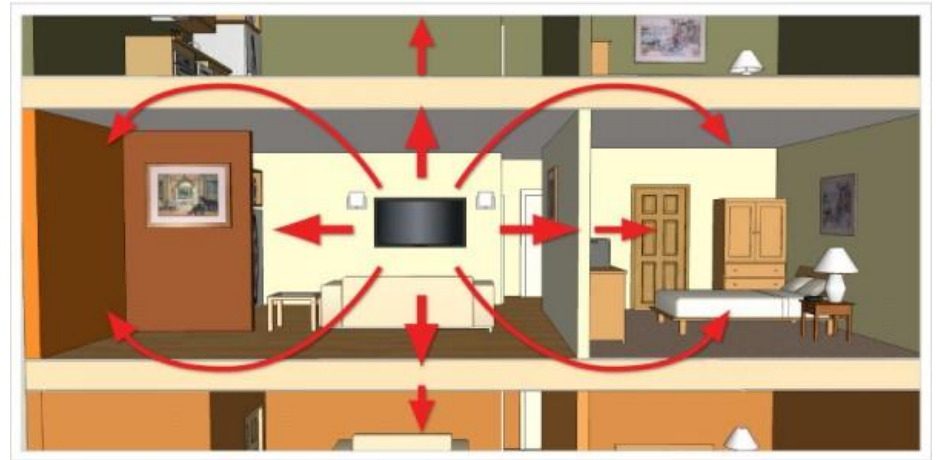
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[Image from Soundproofing Company, Inc.](#)

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How does RC work? (Continued)

Those same vibrations traveling through the studwork can also duct noise throughout adjacent floors and ceilings. Noise will radiate easily through the structure because there's almost nothing there to isolate or absorb the sound waves.

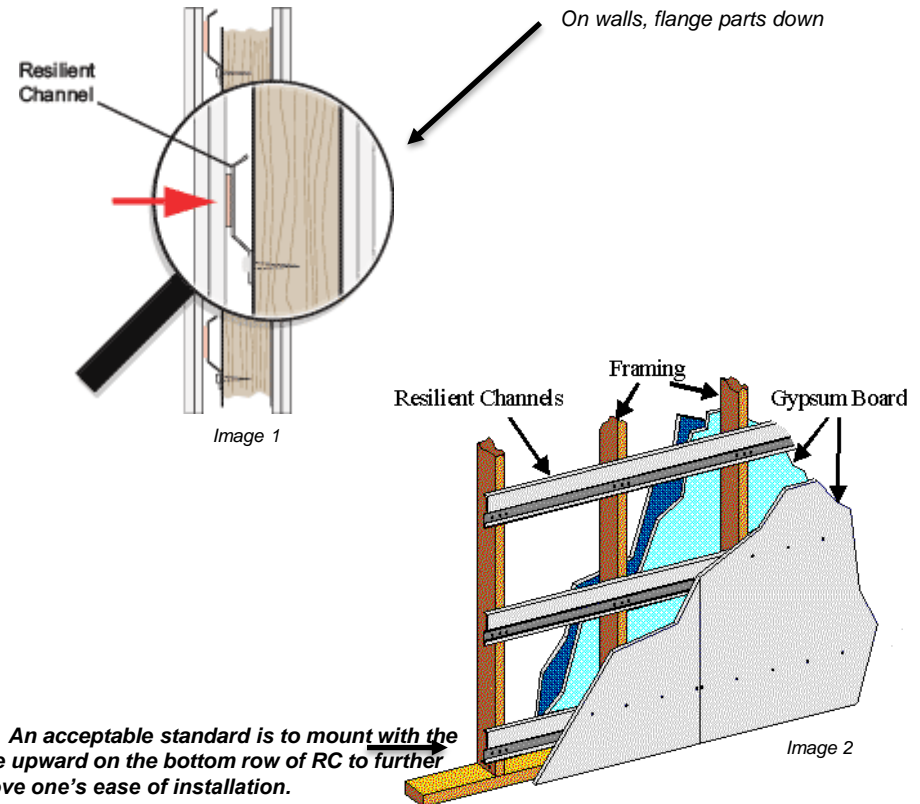


Decoupling

Decoupling is a method used with the intent of separating the attachment of walls from your studs to break the direct path of the sound waves.

Using resilient channel effectively isolates the drywall from the framing studwork, and reduces direct contact, thus blocking as many of these vibrations as possible to raise an assemblies STC rating.

The resilient channel technique by itself typically adds 3 to 5 (or more) Sound Transmission Class (STC) points to an otherwise identical wall or ceiling.



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Sources: [Image 1](#) [Image 2](#)

STC Ratings

STC, Sound transmission Class, is a number-based rating system that reflect how well building barriers attenuate airborne sounds.

“Assemblies separating dwelling units from each other . . . shall have a sound transmission class (STC) of not less than 50 (45 if field tested) . . .”*

- 1207.2 Air-borne sound, 2012 IBC



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STC Ratings - Lab Testing

| COMPARISON CHART | Phillips RC-1 NGC Testing** | Phillips RC-XL NGC Testing** | Phillips RC-2 NGC Testing** | ClarkDietrich RC Deluxe*** |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-----------------------------------------|----------------------------------------|---------------------------------------|
| STC Rating | 53 | 53 | 53 | 53 |
| Cost \$(Lower) - \$\$\$\$\$(Higher) | \$ | \$\$ | \$\$\$ | \$\$\$ |
| Ease of Installation ①(Easy) - ⑤(Difficult) | ② | ② | ② | ③ |
| Prevents Ridging & Cracking | YES | YES | YES | YES |
| Meets 30 UL Assemblies* | SOME | YES | YES | YES |
| PHILLIPS AND CLARKDIETRICH ASSEMBLY TESTED: 3-5/8" 25ga EQ ViperStud® and ViperTrack® 3-1/2" insulation inside of wall cavity, resilient sound channel installed 24" and Gypsum Wall Board 5/8" Type X | | | | |

* List of UL Assemblies: L521 L546 L547 L550 L558 L562 L563 L569 L570 L574 L576 L579 L589 L590 L592 L593 L598 M501 M502 M503 M506 M515 P522 P524 P531 P533 P535 P538 P545 P549 P552

** NGC Testing Services features one of North America's most sophisticated and unique, fully accredited independent testing facilities. Find more information about the test on ngctestingservices.com/acoustical.html

*** RC Deluxe requires alignment and additional trimming causing excess waste.



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Installation – Mounting

RC must be mounted perpendicular to the stud, and appropriate center-to-center placement is key.

Flange should consistently point the same way throughout the installation.

In Walls and Ceilings, RC must not hit the opposing wall studs; instead, RC must be installed within 1” of the studs on the end/tip of the RC, and the edge of the RC must be within 6” (but not touching) the wall studs. This creates a “floating corner”.

Ceiling Joists of 24” – RC must be 16”

Ceiling Joists of 16” – RC can be 24”

Gypsum with Supporting Insulation – RC must be 12”

Walls - Spacing Max is 24”



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Installation – Mounting Continued



Attachment flanges must remain face down, ensuring the open side of the RC is face up towards to top of the wall.

The only exception is if you use a two-legged RC channel. Instead, one must alternate the screws (top to bottom, as pictured above).

Both types of installation enables the RC to act as a shock absorber, ensuring the wallboard has no direct contact with the sound.

Note: Some manufacturers require RC to be specifically aligned to framing members based on their uniquely designed hole patterns. PHILLIPS DOES NOT.

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Installation – Screws

Screws that attach the wallboard to the RC must be the correct length

Board's depth + 3/8 inch

Must be located between framing members.

NOTE: Using a screw that is too long and then installing it directly into the framing member creates a “short circuit”, negating some of the acoustical perks inherent within RC's design.



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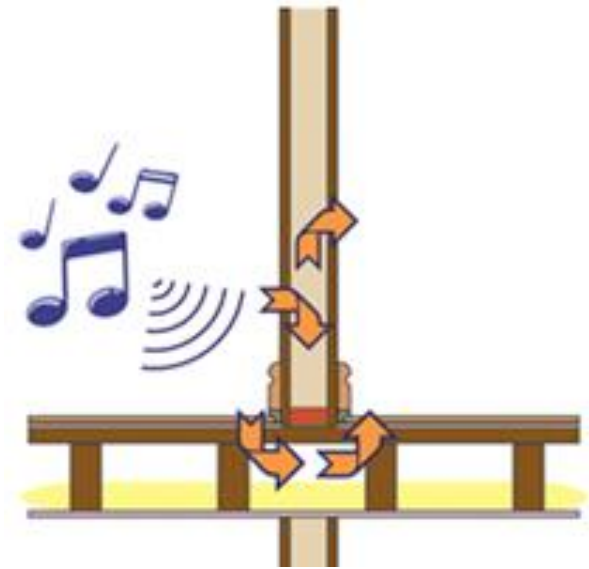
Pulling it All Together – Seams and Sealing

The screws holding the wallboard to the RC should be a minimum of 12 inches apart.

When your job asks for two layers of board, you should offset your seams for every layer. This ensures sound transmissions are blocked throughout the wall assembly. In addition, the first layer should have a screw every 24 inches, and the second layer every 12 inches.

Always seal outlets, switch boxes, etc. to avoid flanking.

Flanking is the occurrence of sound due to gaps within the wall's corners and perimeters.

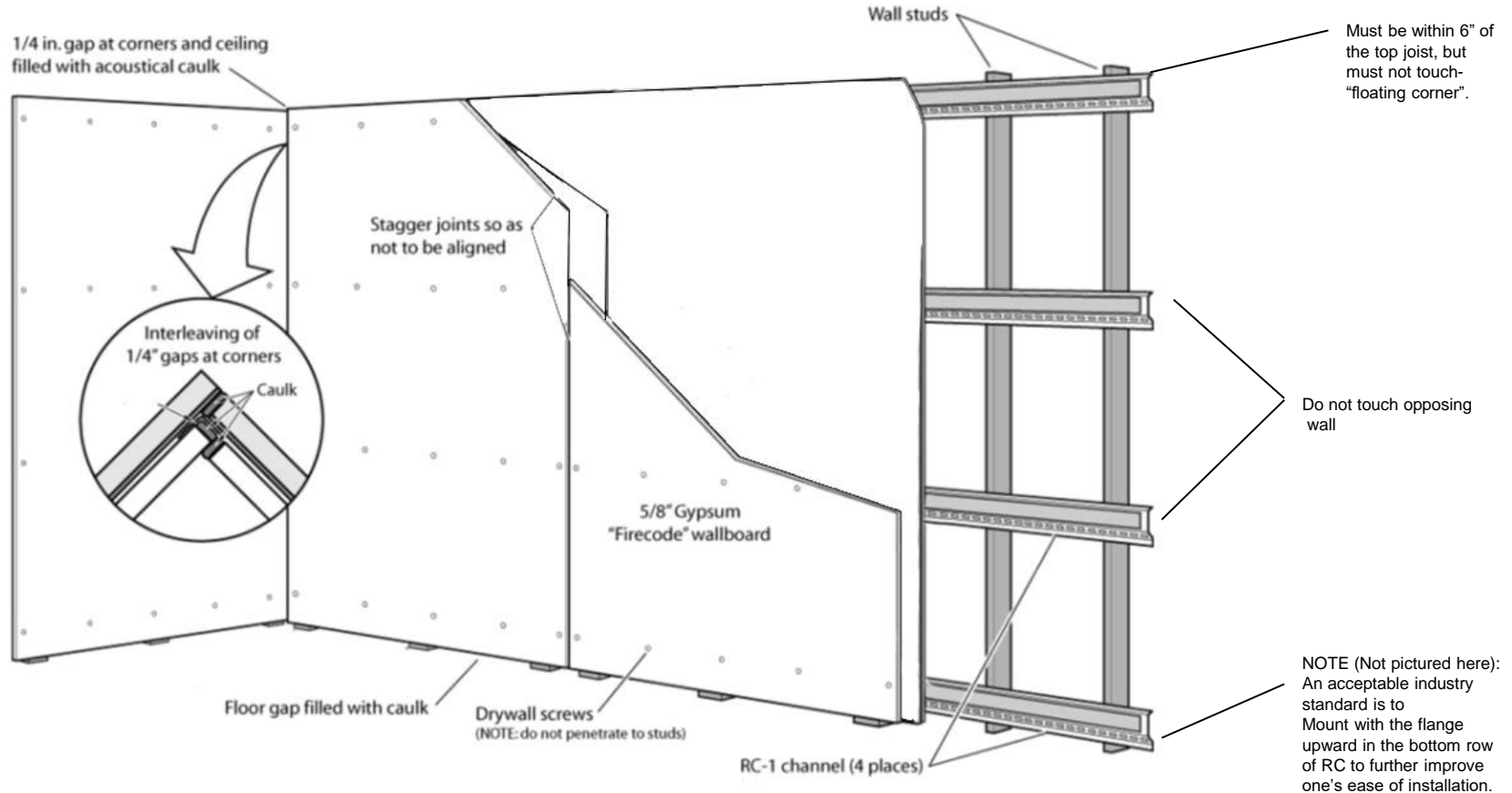


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*Image courtesy of Super Soundproofing, Co. : [Image sou](#)

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Pulling it All Together – Diagram



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Lesson Complete.

You Ready?

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