



# Phillips Manufacturing RC Certification Program

**Created By:**

**Matt Lamb, Manufacturing Engineer**

# 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*

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

*Mission*

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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.

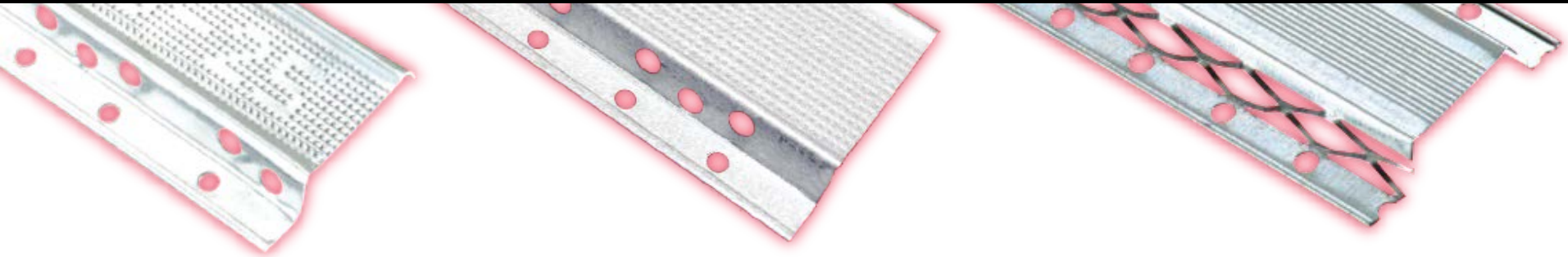
*All products featured in this presentation are available at [www.phillipsrc.com](http://www.phillipsrc.com).*



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# Phillips Resilient Channel Products



## RC-1 Tru-25<sup>®</sup> 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<sup>®</sup> Tru-25<sup>®</sup> (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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# Technical Specifications



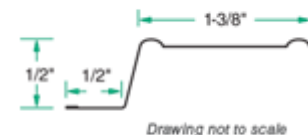
## RC-XL

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



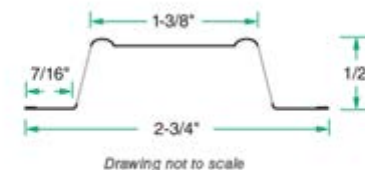
## RC-1

- 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 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

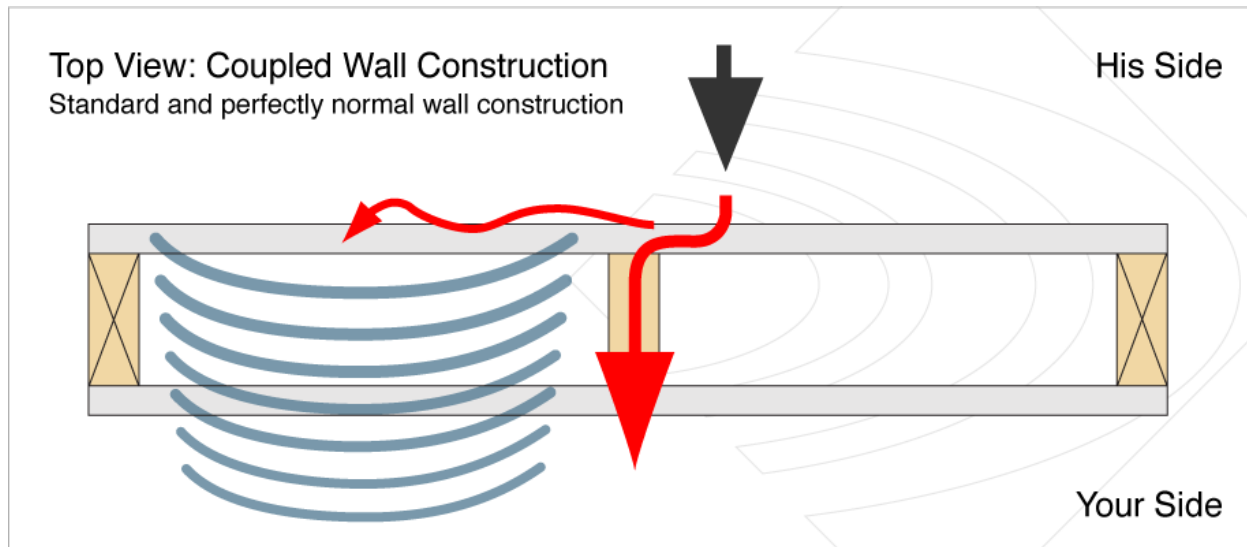


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# How does RC work? (Continued)

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

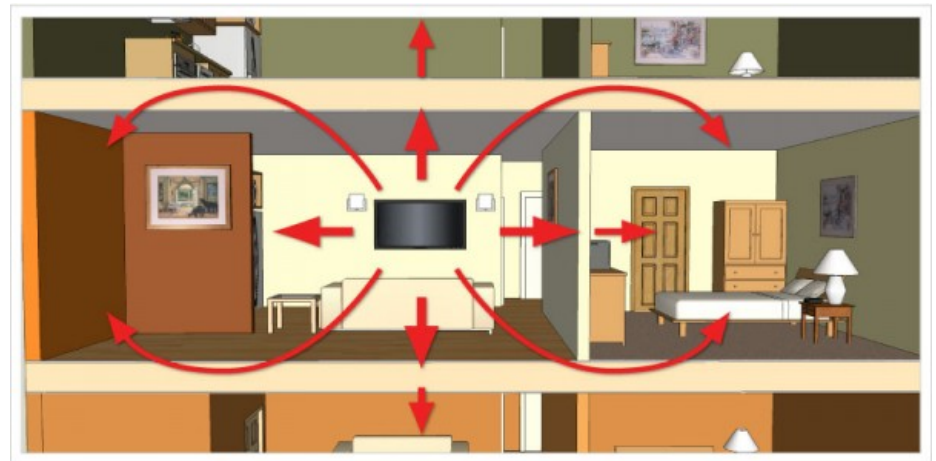
When sound waves hit one side of the wall it causes the drywall on that side to vibrate. Since the drywall is rigidly connected to the stud frame, the vibration is transmitted right through the studwork to the drywall on the other side and re-radiated.





# How does RC work?

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.



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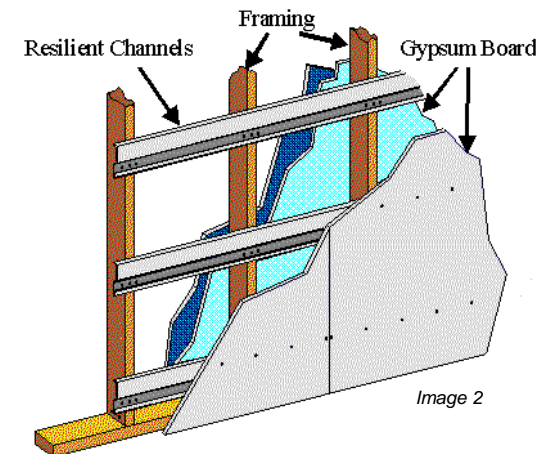
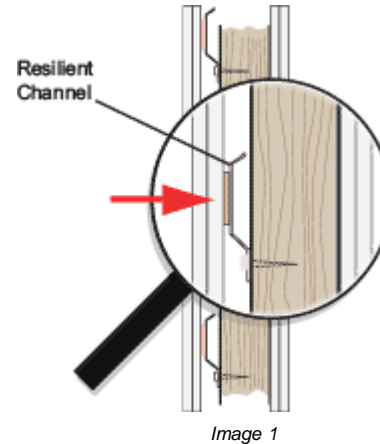
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# Decoupling

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.*



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

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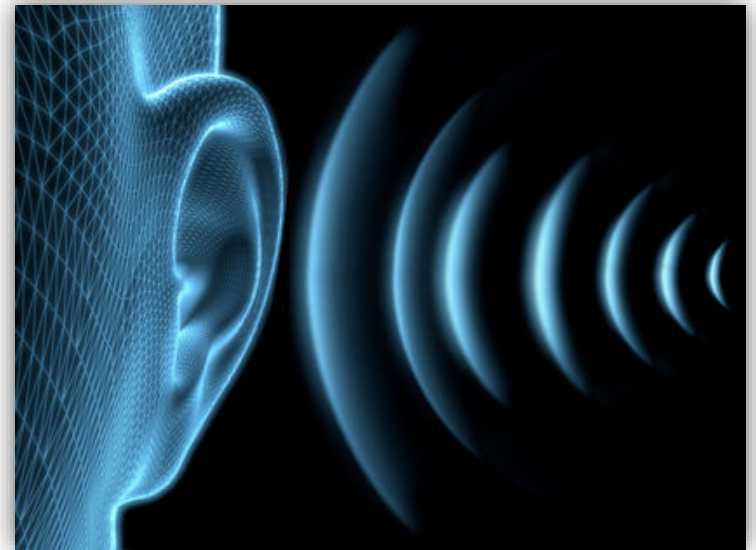
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# STC Ratings

***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

<b>COMPARISON CHART</b>	<b>Phillips RC-1 NGC Testing**</b>	<b>Phillips RC-XL NGC Testing**</b>	<b>Phillips RC-2 NGC Testing**</b>	<b>ClarkDietrich RC Deluxe***</b>
STC Rating	<b>53</b>	<b>53</b>	<b>53</b>	<b>53</b>
Cost \$(Lower) - \$\$\$\$\$(Higher)	<b>\$</b>	<b>\$\$</b>	<b>\$\$\$</b>	<b>\$\$\$</b>
Ease of Installation ①(Easy) - ⑤(Difficult)	<b>②</b>	<b>②</b>	<b>②</b>	<b>③</b>
Prevents Ridging & Cracking	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
Meets 30 UL Assemblies*	<b>SOME</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
<b>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</b>				

\* 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](http://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.**

**Walls- Spacing Max 24"**

**Ceiling Joists of 24" – RC must be 16"**

**Ceiling Joists of 16" – RC can be 24"**

**Gypsum with Insulation Support – RC must be 12"**



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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.**

**This enables the RC to act as a shock absorber, making sure the wallboard has no direct contact with 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.**

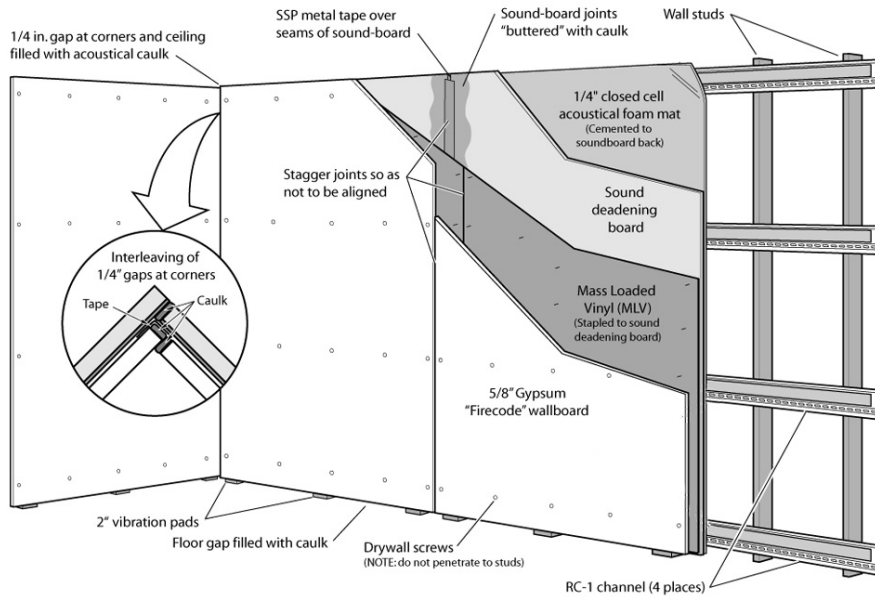
**NOTE: Using a screw that is too long and then installing it directly into the framing member creates a “short circuit”, negating some of the acoustical perks inherent within RC’s design.**



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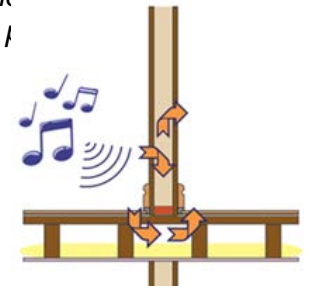
# Pulling it All Together – Seams and Sealing



**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.**

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

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



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

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**Lesson Complete.**

**You Ready?**

**[Click Here to be Phillips Certified](#)**