

# ASC IsoWall

## General Installation Guide

Sound Isolation for High Performance Audio Rooms



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# ASC IsoWall • Introduction

## Please Read First!

Thank you for choosing the **ASC IsoWall** system for your high performance audio room. While other sound isolation systems turn your room into an echo chamber, only **IsoWall** leaves the room sounding better than ever-especially when a full-range sound system is playing at a high pressure level.

This system is based on the resilient channel method of soundproofing, a well proven technique that has been in use for over 50 years. We improved upon it by constraining the edges and including damping where it works to greatest advantage. At a glance, this is a simple 2-step system.

1. Install suspension system of **resilient channel, wall bearing felt, and perimeter gasket.**
2. Install drywall with damping between constraining layers.

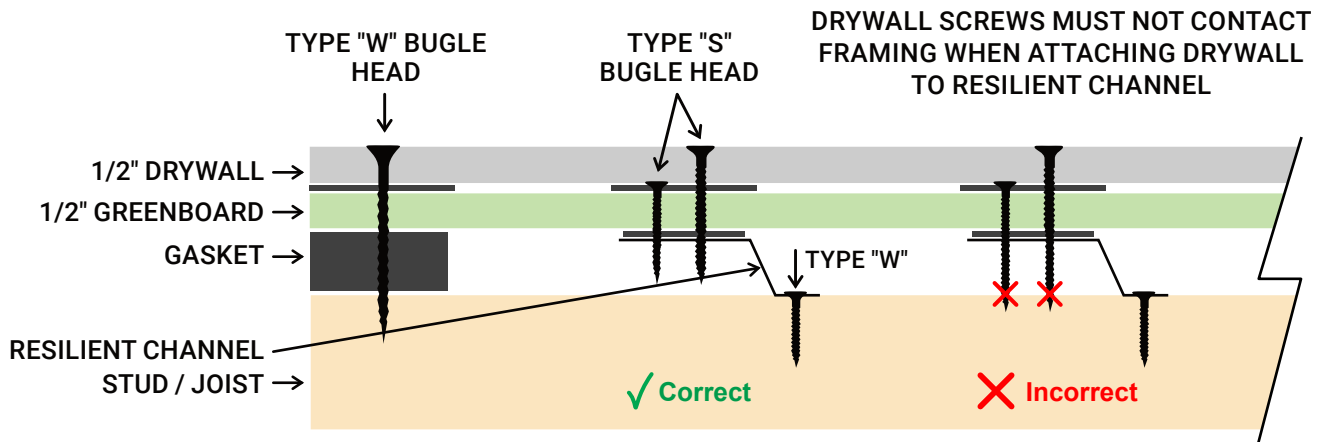
In reality, installation requires care and attention to detail. This is not your average "rock hanging"! But don't worry, ASC has your back every step of the way.

**It is strongly recommend you read this entire guide before beginning.**

**Local codes supersede these instructions.** When in doubt, consult local construction authorities. Often times, minor modifications to our system are perfectly fine. Other times, the performance will be drastically altered.

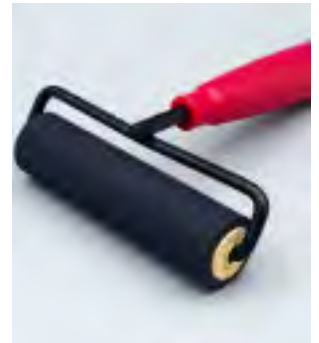
## Screw Length and Type are Critically Important

Study the illustration below for proper screwing guidelines. If some aspect is not possible for some reason, call us at 1-800-ASC-TUBE and we'll help figure out a workaround.



## WallDamp Installation Technique

**WallDamp** is a thin visco elastic damping material that includes pressure-sensitive adhesive on both faces, covered with release paper. After the paper is removed from one face, there is a limited time to position and tack the pieces in place. Excess dust can neutralize the adhesive, compromising the damping properties. We strongly recommend installing **WallDamp** pieces right before adding the constraining layer atop. A mallet or hard rubber brayer helps to activate the adhesive before the constraining layer locks the **WallDamp** in place.



# ASC IsoWall • Ceiling Installation

## Materials We Supply (note: WallDamp release paper color may vary)

WALLDAMP SQUARES



RC PADS



ACOUSTICAL SEALANT



DRC-1 DAMPED RESILIENT CHANNEL FOR WALLS



WALLDAMP STRIPS



PERIMETER GASKET

## Materials You Supply



1/2" REGULAR drywall

1/2" MOISTURE RESISTANT DRYWALL\*

\*3/8", 5/8" type X, ultralight also OK.



CONSTRUCTION ADHESIVE



DRYWALL SCREWS WOOD TYPE 'W'



DRYWALL SCREWS METAL TYPE 'S'



TACK NAILS OR CROWN HEAD STAPLES



## Ceiling Prep

As with standard drywall installation, you'll need to take care of electrical, wiring and boxes, HVAC, and installation before starting your IsoWall insulation. However there are a few key differences.

1. Insulation vapor barriers should not "see" into the room. Either reverse the batt so the barrier faces away from your room, or add another thinner batt so the vapor barrier is in the middle (Fig. 1)
2. Electrical / HVAC boxes need to protrude as far as the wall thickness. This is typically 1-1/2" - 2" depending on drywall thickness. **NOTE:** separate extensions can be used.
3. Full perimeter nailers are needed to secure the Perimeter Gasket (Fig. 1A).

Fig. 1 ISOWALL TOP VIEW

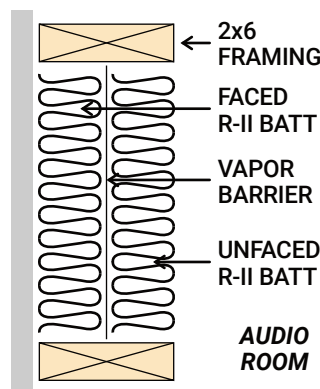
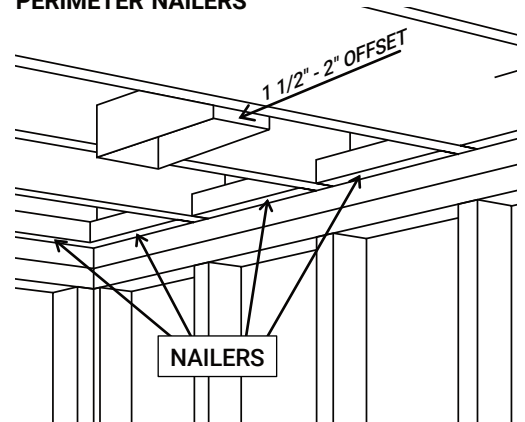


Fig. 1A BOX/VENT INSTALLATION / PERIMETER NAILERS



# ASC IsoWall • Ceiling Installation

## Install Perimeter Gasket & RC Pads

4. With a panel adhesive such as Liquid Nails™, glue **Perimeter Gasket** around perimeter of ceiling (**Fig. 2A**). Use tack nails or staples for extra holding strength while the adhesive cures.
5. Determine placement of **dRC-1** using our placement guide (**Fig. 3A**). Plan channel locations to facilitate drywall sheet attachment. Mark locations on joists.
6. Remove release paper on one side of 1-1/2" x 3" **RC Pads** and apply them to the face of the ceiling joists where **dRC-1**'s will be screwed on (**Fig. 2A**). Remove remaining release paper just before proceeding to next step.

## Install dRC-1 Resilient Channel

- Channel spacing should be no more than 12" on center.
  - The last channel on either end should be 12" from perimeter gasket.
  - The free ends of each channel should not overhang joists more than 6".
  - Splice channels directly over joists by overlapping (not butting) at least 1-1/2" and driving screws through the flange into the joist (**Fig. 3B**).
7. Fasten **dRC-1**s perpendicular to ceiling joists with 1-1/4" wood type "W" drywall screws at each joist.

**PRO TIP:** Mark the location of the joists and the **dRC-1**s on wall's top plates. This will be helpful later.

Fig. 2  
PERIMETER GASKET INSTALLATION

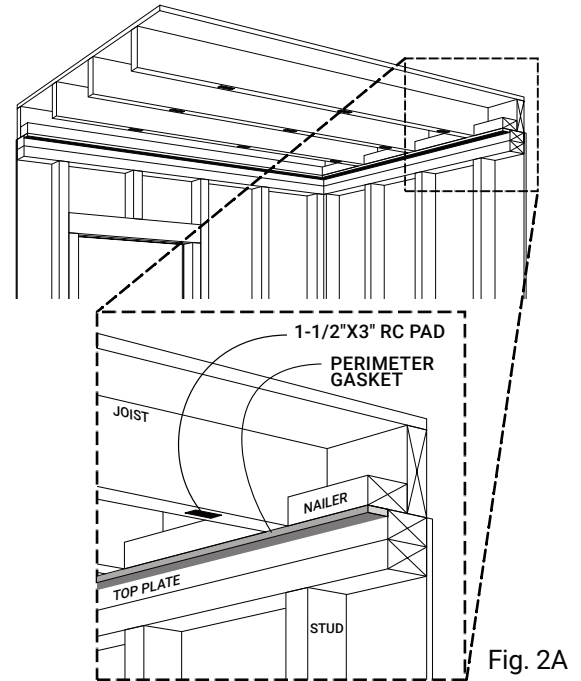


Fig. 2A

Fig. 3A  
dRC-1 CEILING - LAYOUT

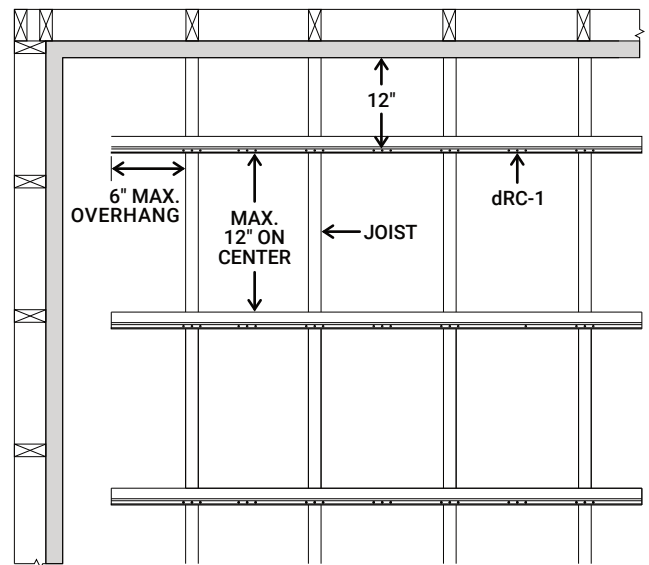


Fig. 3B  
SPLICE CHANNELS OVER JOIST

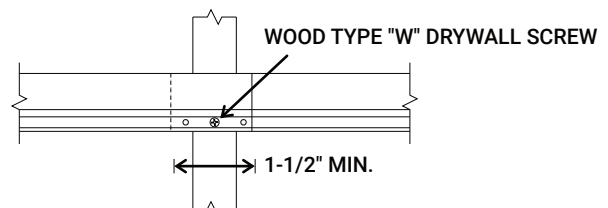
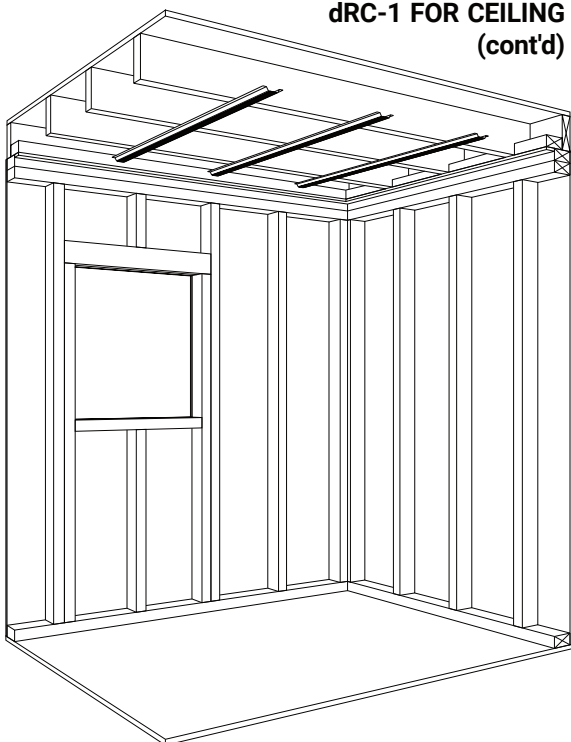


Fig. 3  
dRC-1 FOR CEILING  
(cont'd)



# ASC IsoWall • Ceiling Installation

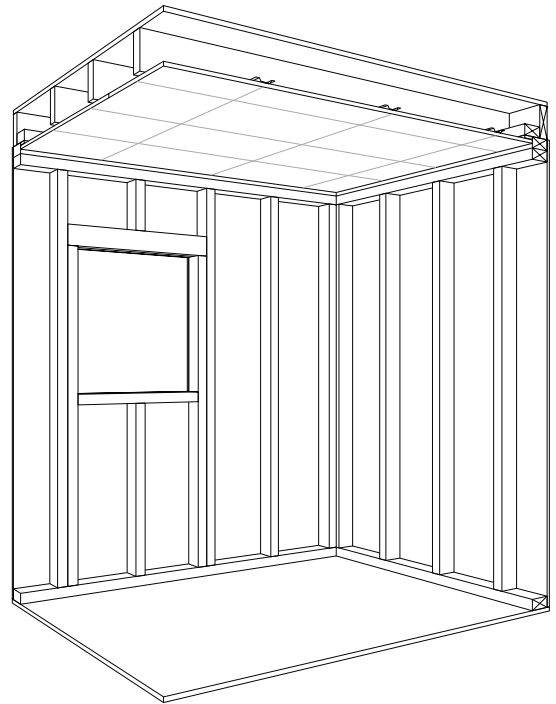
## Install First Layer of Drywall

8. Take a moment to plan the drywall layout, visualizing where the seams will fall and where the attachment points fall. Use your markings from the previous step to hit the **dRC-1** and miss the joists. Once you have figured out the plan, remove the contact paper from the **dRC-1** and proceed to next step. Keep a few important things in mind
  - A. Place the tapered green side toward the framing. The green side has tapered edges which inhibit adequate contact with **WallDamp strips**. Best practice is to cut off the tapered edges entirely, as this will provide the flattest wall. If this is done - plan your layout accordingly.
  - B. A 1/4" gap should be kept between ceiling drywall and the top plates. Apply **Acoustical Sealant** to the gap. Thoroughly clean all drywall dust.
  - C. Drywall thickness substitutions can be made; thicker = more sound isolation, thinner = better low bass reverberation control
9. Apply 1/4" bead of panel adhesive to **Perimeter Gasket**.
10. Attach 1/2" Moisture Resistant drywall perpendicular to **dRC-1**s with 1-1/4" drywall screws for metal, 12" on centers. Avoid driving the screws to joists by keeping the screws a minimum 2" distance from joists. (**Fig. 4A**). Around the edges, use 2" type-W drywall screws to attach the drywall to the nailers through the **perimeter gasket**.

Fig. 4

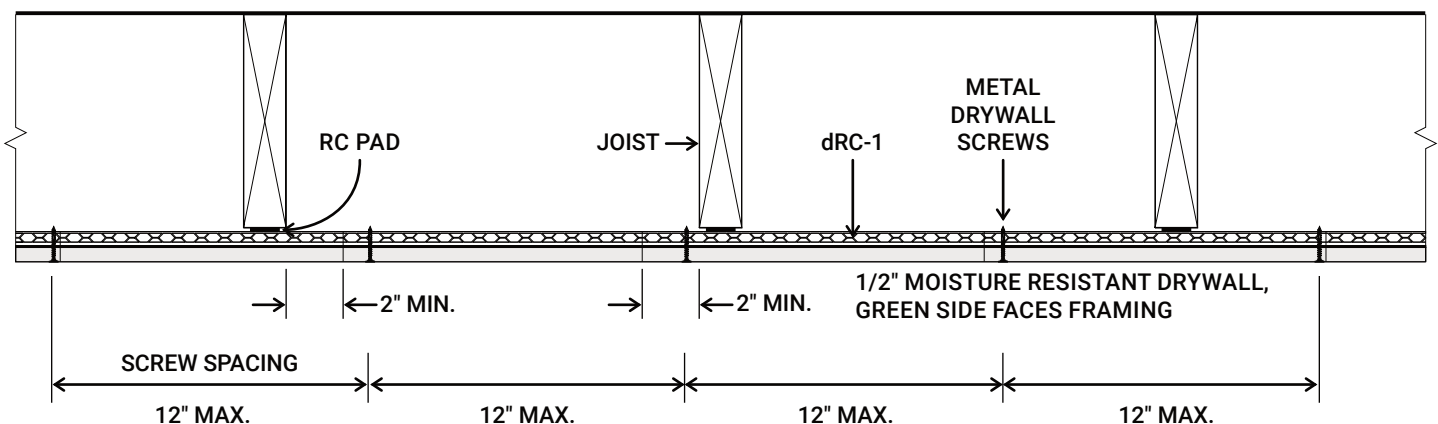
### CEILING DRYWALL - FIRST LAYER (cont'd)

\* Always follow local building codes!



## Avoid Driving Drywall Screws into Framing

Fig. 4A: CEILING SECTION



# ASC IsoWall • Ceiling Installation

## Apply WallDamp

**PREP:** Decide and visualize the layout for the second layer drywall. We recommend this layer should go the same direction as the first layer (perpendicular to **dRC-1s**). Joints between the two layers should be staggered, and centered over **WallDamp squares**. Identify and mark where the joint seams will be.

11. Remove release paper from one side of the **WallDamp Strips**. Apply the strips over all the drywall joint seams as well as around the ceiling perimeter and any openings.
12. Use chalk line to lay out your grid for **WallDamp Square** placement. Aim for 12" on center spacing, but more important is that the drywall seams for the second layer fall on squares. Adjust accordingly.
13. Remove release paper from one side of the **WallDamp Squares**, starting about 6" in from the edges, apply the Squares to drywall. Since gravity will tend to pull the squares and strips down, you should use the mallet and brayer in this step. Proceed immediately to second layer of drywall. If you don't have time to complete the drywall work, wait to install the WallDamp.

Fig. 5  
CEILING WALLDAMP LAYER (cont'd)

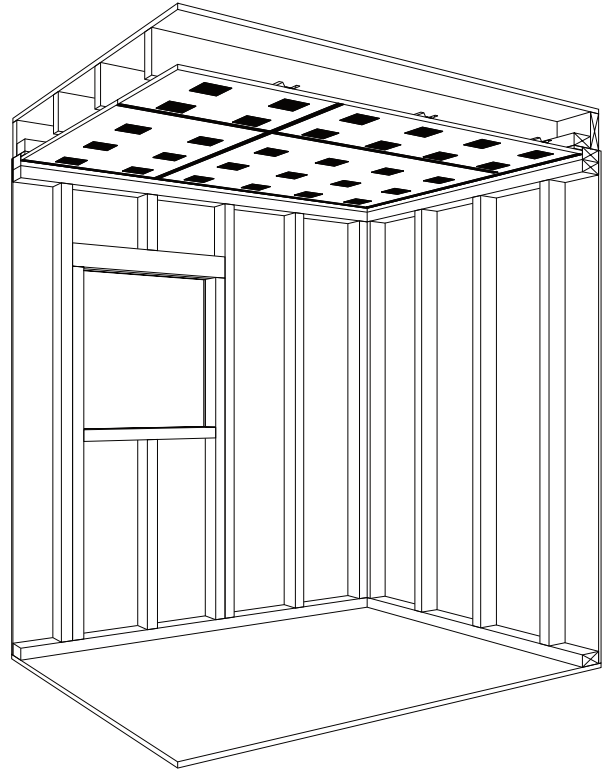
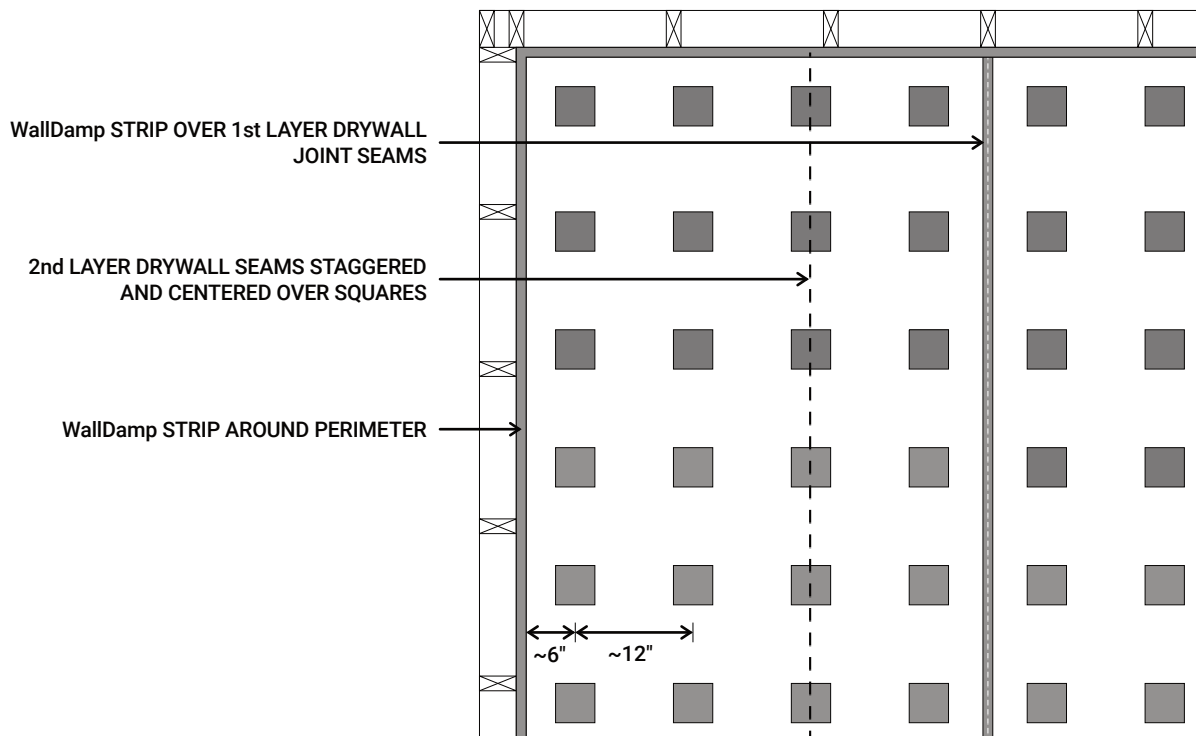


Fig. 5A  
CEILING PLAN



# ASC IsoWall • Ceiling Installation

## Install Second Layer of Drywall

14. Remove contact paper from **WallDamp strips** and squares. If any **WallDamp** comes detached, quickly re-apply and use staples if needed.

\* Dispose of the slick contact paper to avoid a fall hazard.

15. Leave a  $\frac{1}{4}$ " gap around the perimeter with taper facing into the room, install the  $\frac{1}{2}$ " regular drywall with 1  $\frac{3}{4}$ " type-S screws into the **dRC-1** (use chalk lines for reference) and 2  $\frac{1}{2}$ " type-W screws around the perimeter to attach to framing through the first layer drywall and perimeter gasket.

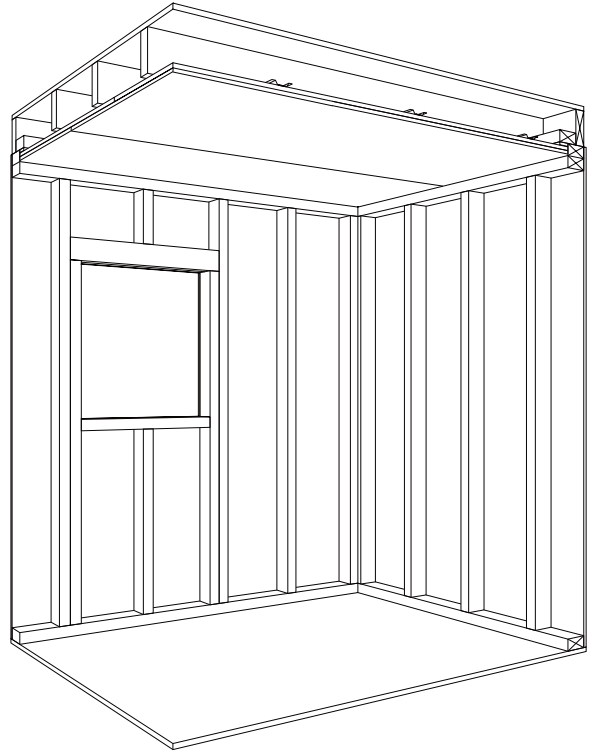
\*Adjust screw length as needed if different drywall thickness was used.

**PRO TIP:** To ease fine-tuning the position of the second layer drywall, add a 'slick' of Liquid Nails construction adhesive to each piece of **WallDamp**. This will decrease the immediate tack strength considerably, but once cured will allow full benefits. A small acorn-sized gob works well.

16. Apply a bead of **Acoustical Sealant** to seal the gap around the perimeter and any openings.

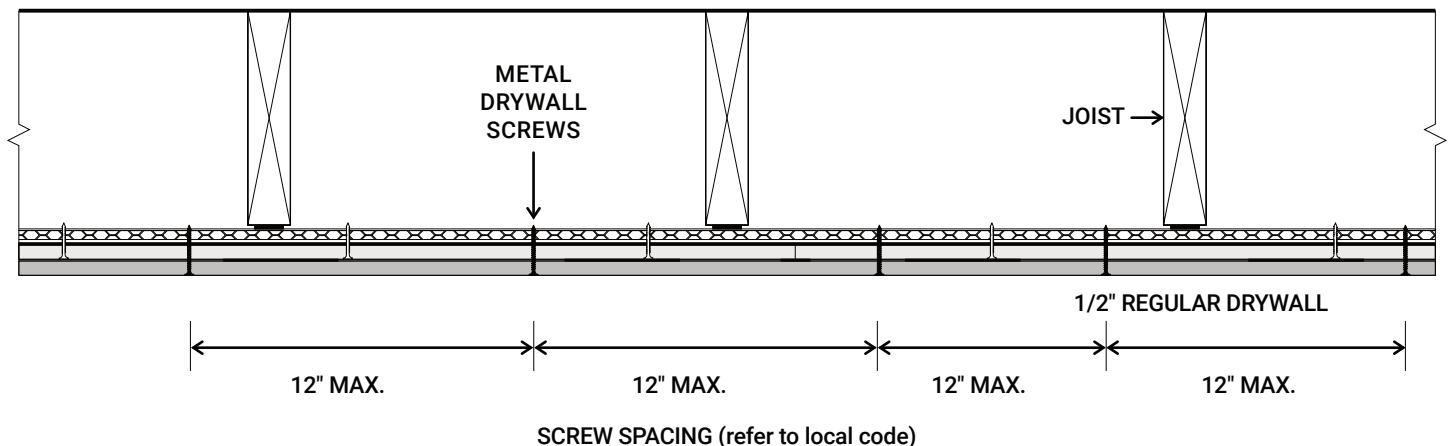
*This completes your ceiling installation. Evaluate any difficulties or mistakes, and move on to the walls.*

Fig. 6  
CEILING DRYWALL - SECOND LAYER



## Avoid Driving Drywall Screws into Framing

Fig. 6A  
CEILING SECTION



# ASC IsoWall • Wall Installation

## Materials We Supply (note: WallDamp release paper color may vary)



## Materials You Supply



## IsoWall Preparation

### Electrical outlets, light switches, and other in-wall fixtures:

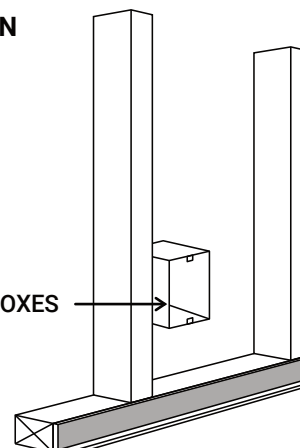
It's a good idea to plan ahead before you begin your IsoWall installation. The final wall thickness in the system is roughly 1 5/8" from the face of the studs. Place electrical and other junction boxes accordingly.

Complete rough electrical wiring and install insulation. Vapor barrier should be omitted wherever possible. If vapor barrier is necessary, orient the facing into the cavity. Use wire supports as needed to keep insulation from interfering with resilient channel and drywall insulation.

### JUNCTION BOX INSTALLATION



1 1/2" - 2" OFFSET FOR JUNCTION BOXES





# ASC IsoWall • Wall Installation

## Install Wall Bearing Felt

1. Remove release paper from the 1-1/2" **Wall Bearing Felt** and place it on floor around perimeter of room. The built-in adhesive will usually keep it in place, but secure the felt with tack nails if needed. Caulk with Acoustical Sealant below Felt if floor is irregular.



WALL BEARING FELT

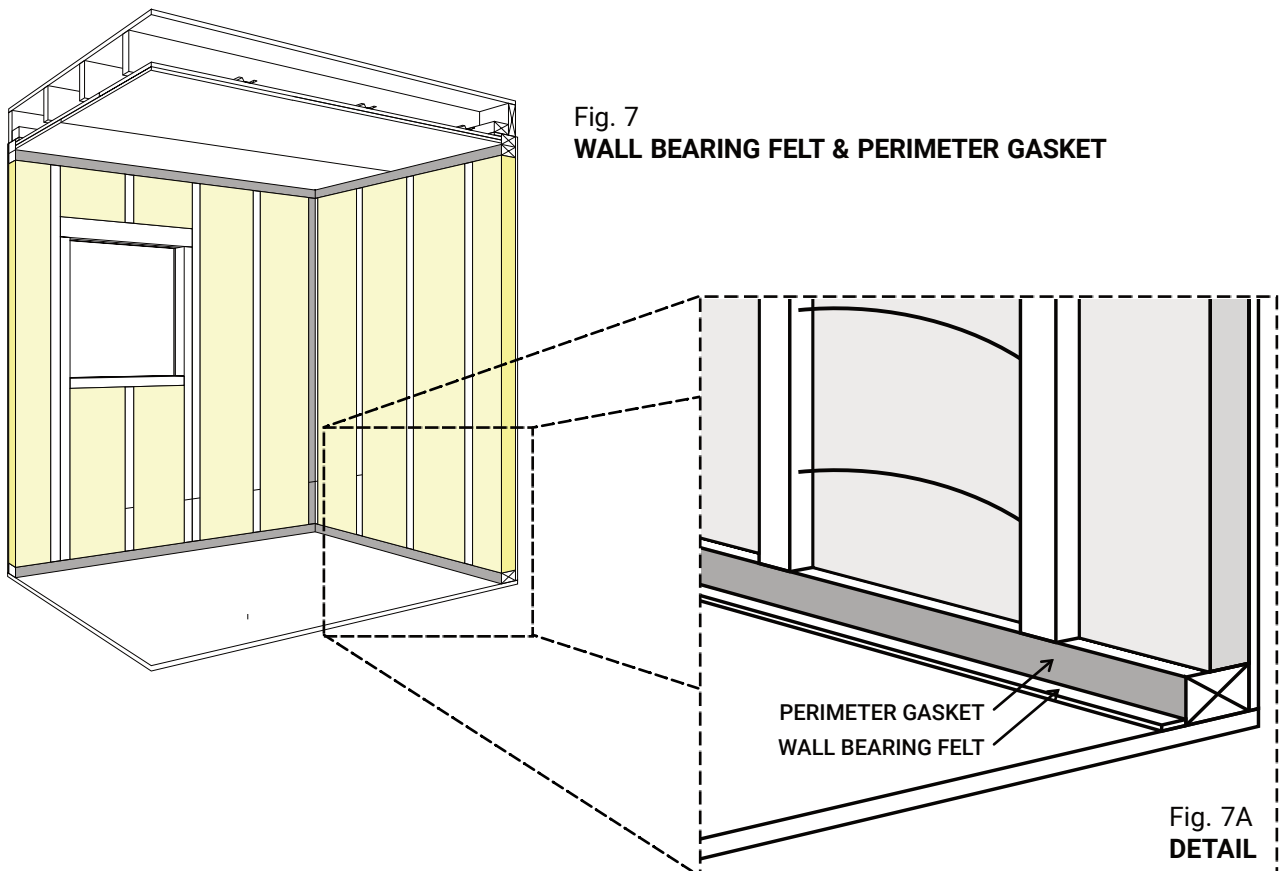


PERIMETER GASKET

## Install Perimeter Gasket

2. With a panel adhesive such as Liquid Nails™, glue **Perimeter Gasket** strips onto edge of top /sole plates and around wall perimeter as well as around openings, such as door and window headers, sills, etc. Use tack nails (if needed) for extra holding strength while the adhesive dries.

**NOTE:** Additional nailers may be needed at corners due to wall thickness.



# ASC IsoWall • Wall Installation

## Install RC Pads

- Determine resilient channel placement based on (Fig. 9A) on page 11. Mark locations using a chalk line. Depending on ceiling height and size of drywall sheets, you may have horizontal seams. Offset the seams on adjacent pieces, and ensure all horizontal seams land on the middle of a **dRC-1**. Slightly adjusting the vertical positions of the **dRC-1**'s may make this easier.
- Remove release paper on one side of 1 1/2" x 3" **RC Pads** and apply them to the face of the studs where **dRC-1**'s will be screwed on (Fig. 8A). Be sure to read **WallDamp Install Technique** information on page 2.
- Remove remaining release paper and proceed to **dRC-1** installation immediately.

## Install Resilient Channel

- Channel spacing should be 24" (max.) when stud spacing is 16", or 16" (max.) for 24" stud spacing.
  - Note that the full perimeter of the drywall is attached directly to framing, so the top and bottom channels can be up to 24" from ceiling and floor, respectively.
  - Channel ends should be held back from intersecting surfaces but cantilevered no more than 6" past studs (Fig. 9A).
  - Splice channels directly over studs by overlapping (not butting) at least 1-1/2" and driving screws through both channels into the studs (Fig. 9B).
- Fasten **dRC-1** (leg flange down) perpendicular to studs with 1-1/4" type "W" drywall screws at each stud.

**PRO TIP:** Mark the location of the studs and the **dRC-1**s on floor, ceiling and adjacent walls at the ends of each stud. This will be helpful later.

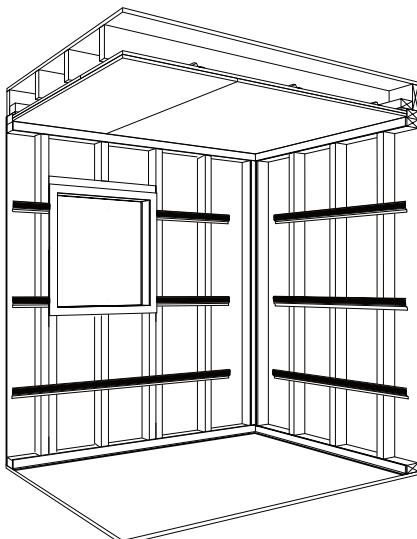


Fig. 9  
WALL INSTALLATION (cont'd)

Fig. 8  
WALL RC PADS

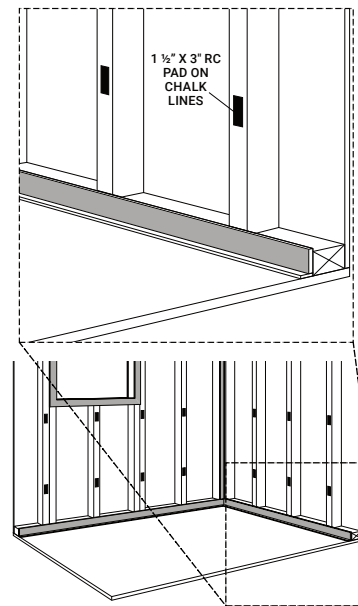


Fig. 8A  
DETAIL

Fig. 9A  
WALL ELEVATION

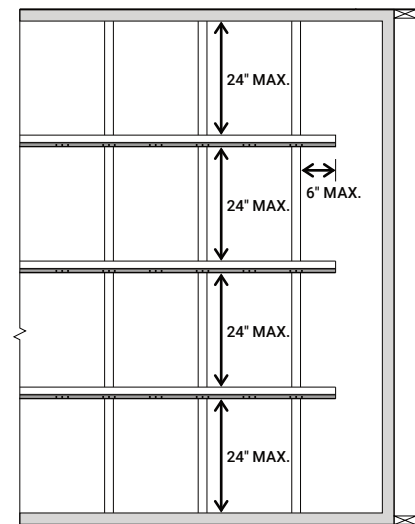
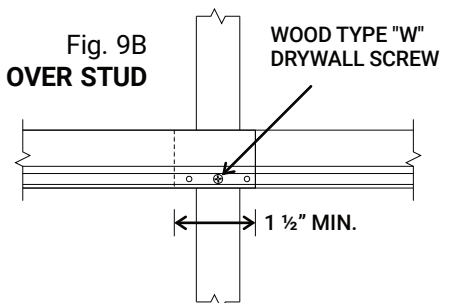


Fig. 9B  
SPLICE CHANNELS OVER STUD



# ASC IsoWall • Wall Installation

## Install First Layer of Drywall

7. Apply 1/4" bead panel adhesive to face of the installed **Perimeter Gasket** strips.
8. Snap chalk lines on the drywall to mark the location of the studs and the **dRC-1s**.
9. Attach 1/2" Moisture Resistant drywall perpendicular to **dRC-1s** with drywall screws for metal, 12" (max.) on centers. Avoid driving the screws to studs by keeping the screws a minimum 2" distance from studs (**Fig. 10A**).

**NOTE:** A 1/4" gap should be kept between the wall and ceiling as well as all adjacent walls. Apply a bead of **Acoustical Sealant** to seal the gap.

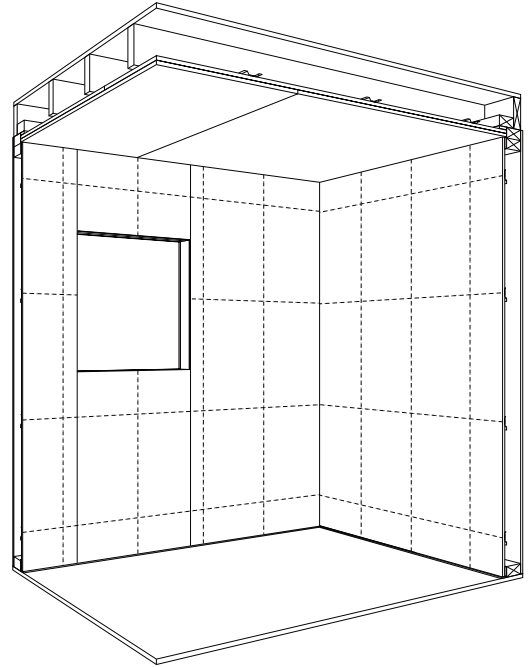
10. At the perimeter, use drywall screws for wood to screw drywall to framing 12" (max.) on centers through first layer drywall and **Perimeter Gasket** strips. Be sure screws penetrate wood at least 1/2".

**PRO TIP:** Best practice is to cut off tapered edges of drywall. This allows proper contact of damping materials and the flattest wall.

11. Decide and visualize the layout for the second layer drywall. We recommend this layer go the same direction as the first layer (perpendicular to **dRC-1s**). Joints for the first and second layers should be staggered, and centered over **WallDamp Squares**. Identify and mark where the joint seams will be.

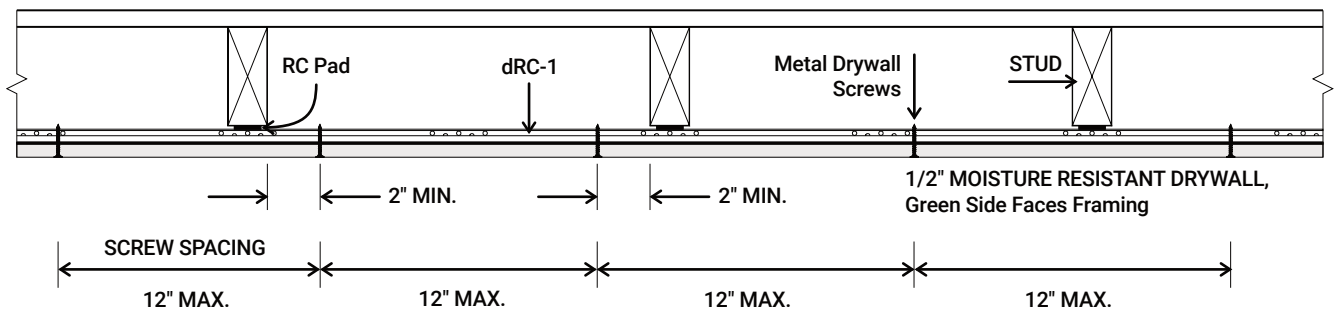
**NOTE:** If the second layer of drywall needs to be oriented parallel to the **dRC-1s** (opposite the first layer), size the second layer drywall pieces so the seams align centered over the dRC.

Fig. 10  
**WALL DRYWALL, 1ST LAYER (cont'd)**



## Avoid Driving Drywall Screws into Framing

Fig. 10A  
**TOP VIEW, WALL SECTION**



# ASC IsoWall • Wall Installation

## Install WallDamp

12. Remove release paper from one side of the **WallDamp Strips**. Tape the strips over all the joint seams as well as perimeter of walls and openings. (**Fig. 11A**)
13. Determine placement of **WallDamp Squares** starting about 6" from the wall edges and 12" on center within the field. Snap chalk lines to help speed application. Remove release paper from one side of the **WallDamp Squares** and apply. Use mallet if necessary. Be sure to read **Install Technique** information on page 4.

**Note:** Joints between the two layers of drywall should be staggered, and centered over **WallDamp Squares**. Identify and mark where the joint seams will be. Leave  $\frac{1}{4}$ " gap at intersections with adjacent walls and the ceiling - **plan ahead!**



Fig. 11  
**WALL DAMPING**

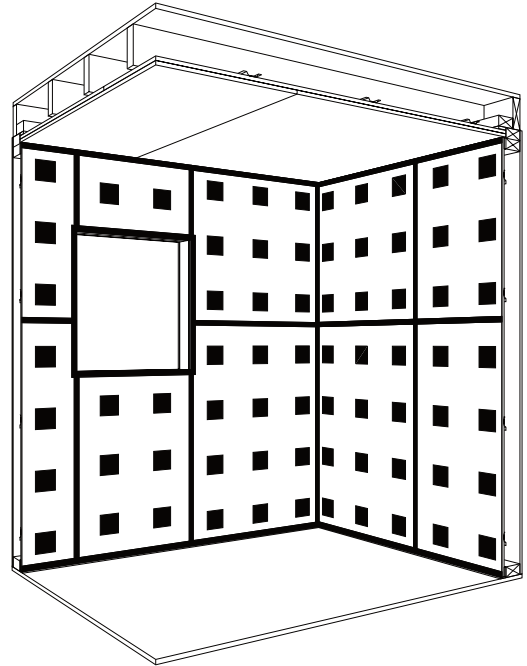
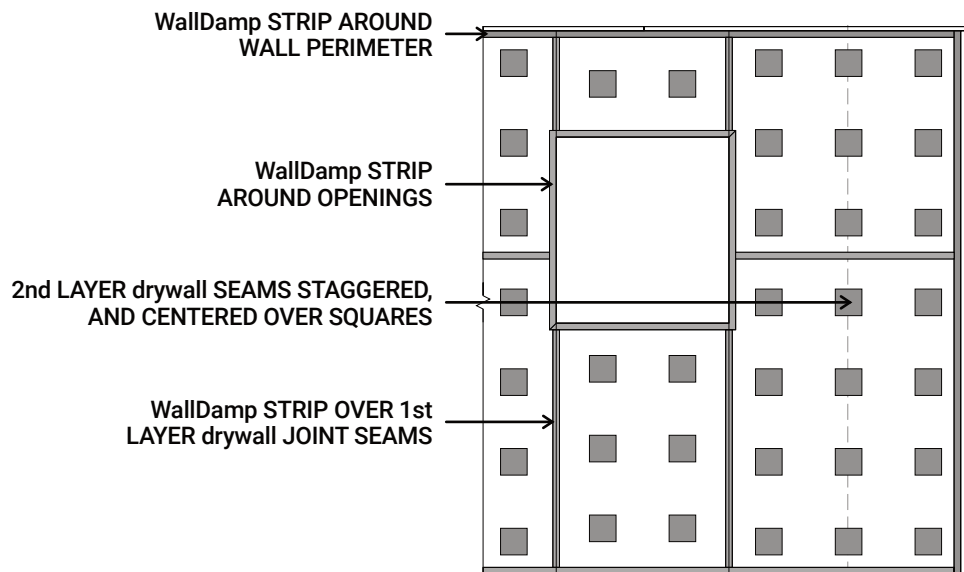


Fig. 11A  
**WALL ELEVATION**



# ASC IsoWall • Wall Installation

## Install Second Layer of Drywall

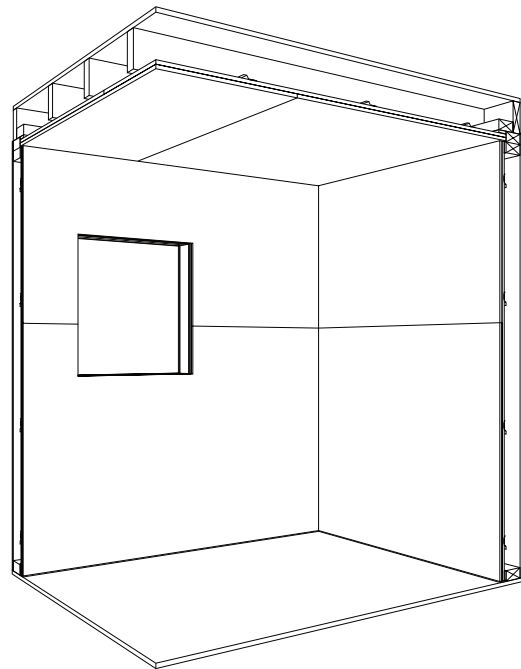
- Attach 1/2" regular drywall perpendicular to dRC-1s through the first layer Moisture Resistant drywall with drywall screws for metal, 12" (max.) on centers. Avoid driving the screws to studs by keeping the screws a minimum 2" distance from studs. **See Fig. 10A on page 12.**

At the perimeter, use drywall screws for wood to screw drywall to framing 12" (max.) on centers through first layer drywall and **Perimeter Gasket**. Be sure screws penetrate wood at least 1/2".

- Apply a bead of acoustical sealant to gap at edge. Tape and apply drywall joint compound to wall and ceiling.

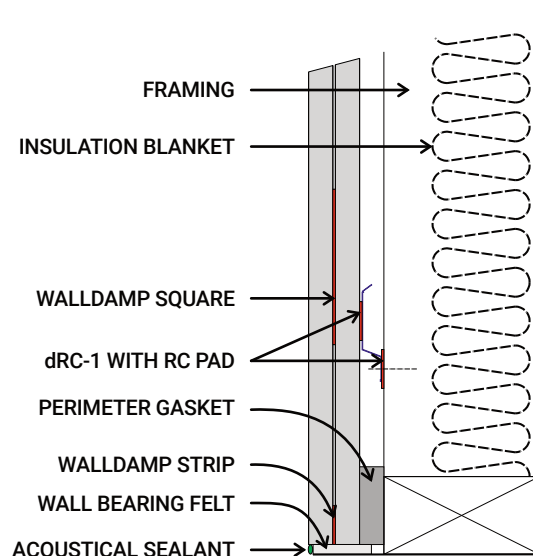
*Congratulations, you are now done!*

Fig. 12  
**WALL INSTALLATION (cont'd)**



## IsoWall System Overview

### SECTION - WALL / FLOOR DETAIL



### SECTION - WALL / CEILING DETAIL

