

HushFrame Raft Connectors

VIBRATION ISOLATING STRUCTURAL CONNECTORS

For controlling the movement of sound through walls, floor/ceiling assemblies, and associated components of buildings.

<www.HushFrame.com>

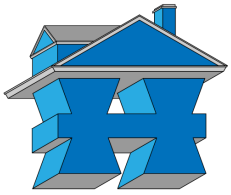
Use and Installation Guide

Series 200 and 300 Rafts

HushFrame Raft Connectors are manufactured utilizing **Vi-Bridge** sound control technology resulting in a **Strong Silent Type** of **Raft** connector.

NOTE: The information contained herein is offered as a guide to the use and installation of our Raft connectors. Adherence to the general principles as outlined result in the successful attainment of the noise attenuation as published. For further information or assistance please contact Building Component Development or your local representative.

Proudly Made in the USA



Generally speaking...

Raft Connectors are simple, quick to install, and an effective way to control the acoustic environment of your building.

While they can be flexible and creatively adaptive, Rafts are typically installed on the face of assembly elements such as slabs and plank decking, or mounted on the sides of framing elements inside stud, joist, and rafter bays.

Rafts are designed to work in concert with furring strips. Once Rafts have been attached to the superstructure, furring strips then connect the Rafts to each other prior to the installation of the finish wall surface, typically gypsum panels.

The Rafts consist of three elements, a wide 'structure mount' that extends on either side beyond the silicone core, the vibration attenuating silicone core, and the 'furring mount' block located squarely above the silicone.

Install Rafts in a grid pattern as shown herein utilizing a minimum of four connectors arranged in a square or rectangular pattern.

Attachment is important...

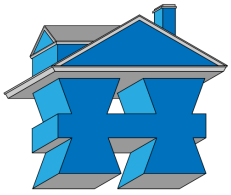
Rafts can be attached to the superstructure utilizing screws, nails, two-part epoxy adhesives, or polyurethane based construction adhesive. Bugle head coarse thread drywall screws a minimum of 1-1/2 " in length are highly recommended when attaching to wood plank or framing elements. Nails should be a minimum 6-penny common head.

Attachment to concrete surfaces can be achieved with drill-set anchors and screws or epoxy and polyurethane adhesives. Great care must be taken when employing adhesives for this task. Follow the adhesive manufacturer's instructions carefully, ensure the concrete surface is properly prepared, clean and suitable, and allow sufficient time for the adhesive attachment to fully set before testing the bond or attaching furring strips.

When Rafts are employed to conceal utilities and/or add depth of insulation material on the underside of a concrete slab or timber plank floor, scab blocks should first be attached to the underside face and then the Rafts to the scab blocks.

A minimum of two fasteners are required to secure the structure mount of the Rafts to the superstructure, typically with one located on the mount on each side of the silicone core. In situations where one side of the structure mount of a series 200 or 300 Raft is unavailable to receive a fastener, two fasteners will be required on a single side of the Raft to prevent rotation.

Fasteners should not be placed closer than 1/4" to the edges of the mounts.



Furring strips...

Only screws shall be utilized to attach furring strips to the Rafts, preferably bugle head coarse thread, two screws per connection.

When attaching furring strips to the Series 200 Rafts, where the fasteners penetrate the furring mount perpendicular to the silicone core, care must be taken to select fasteners of appropriate length. While it is not problematic for the end of the fasteners to make contact with the silicone core, fasteners that are too long or over-driven so the fastener penetrates the silicone core and makes contact with the structure mount will 'short circuit' the isolation. This allows the sound vibrations to travel directly across the fastener to the opposite mount unimpeded, bypassing the attenuating effect of the silicone core.

During installation of the furring strips, firmly hold the furring in place against the Raft faces as you place the fasteners, and don't release the hold until all the fasteners for that strip are in position. The Rafts can be damaged if a length of furring is allowed to rotate out of position when only secured by fasteners in one or two Rafts. Good practice would be to secure each end of the furring strip initially and then complete the attachment to the interior Rafts.

Modification is Allowed...

Trimming the Raft mounts to accommodate installation in tight spaces is allowed as shown herein. Care must be taken to avoid simultaneous incidental contact of both mounts against either the superstructure or the furring strips which would result in short circuiting the isolation.

Once trimmed, if the remaining length of the structure mount leg is too short to accommodate a properly located fastener, an additional fastener must be installed on the opposite leg to secure the Raft and prevent rotation.

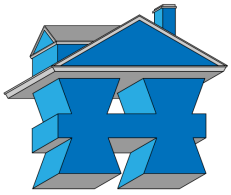
Alignment is flexible...

Wood framing elements are commonly slightly bowed, twisted or warped. Raft Connectors are very forgiving and accommodating of these conditions. The Rafts can be located and secured as required to correct a misaligned wall or ceiling plane.

Series 300 Rafts are manufactured with an approximate 1/4" offset, where the face of the furring mount protrudes beyond the plane of the structure mount. This design assures no short circuiting of the Raft provided that, when installed on the side of the framing member, the edge of the structure mount is either flush with or proud of the face of the framing member.

Beware of 'Short Circuiting'...

Short circuiting the Raft Connectors will defeat the noise attenuation they offer. Pay close attention to the placement and length of the fasteners you install. Make sure that when you install Rafts close to top and bottom plates, wall intersections, and other adjacent structure that no inadvertent contact occurs between the structure mount and the furring strips or the superstructure and the furring mount. This is of particular



importance and a common source of failure when Rafts are trimmed to accommodate close proximity to top and bottom plates of wall framing.

When installing furring strips, be careful to ensure they do not make contact with the abutting assembly surface. Furring should be trimmed to allow a minimum 1/4" clearance between the end of the strip and any adjacent assembly component. Install the ceiling panels first and trim them clear of contact with the abutting assembly elements as well. When installing the gypsum wall panels, hold them down 1/8" -1/4" from the ceiling panels and adjacent wall panels and fill the gap with acoustic caulk, silicone caulk, or a painter's caulk that contains a non-hardening silicone based component, flush to the surface of the panels. This prevents the transfer of sound vibrations from one surface to the next.

Be Careful not to Overload...

Install gypsum panels on the ceiling before you install the wall panels. The ceiling panels must be fully supported by a drywall lift, a deadman support, or a co-worker until the panel is fully fastened. When installing gypsum board panels onto wall furring, the panels should be installed along the bottom of the wall first, be supported by 1/8" -1/4" shims along the bottom and the shims must remain in place until the entire sheet has been properly fastened to the furring. This prevents the overloading of any particular line of Rafts. As above, fill the gap along the bottom with a resilient caulk material.

Gypsum Panel and Point Loads...

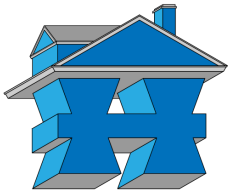
Unlike competing technologies, HushFrame Raft Connectors will accommodate the installation of point loads such as cabinets and book shelves. When installing these amenities, be sure that the furring strips have been fastened as directed and that the cabinet or shelf bracket fasteners are secured through the gypsum board panel and into two parallel rows of horizontal furring.

Beware of Flanking...

The effectiveness of the sound isolation and noise attenuation properties of HushFrame Raft Connectors is directly proportional to the care and attention to detail observed by the installer of the complete assembly. As in any engineering environment, the whole is only as effective as its weakest link. Seal the gaps, limit the penetrations and seal them to the extent possible, install batt insulation carefully in the bays to eliminate creating an air spring, and attach unavoidable penetrations such as light cans and exhaust fans directly to the gypsum panels and furring and not the superstructure. Try to avoid penetrations, as just like with air balloons and water tanks... you cut a hole in them, no matter how small and... they leak.

It Takes Time and Discipline...

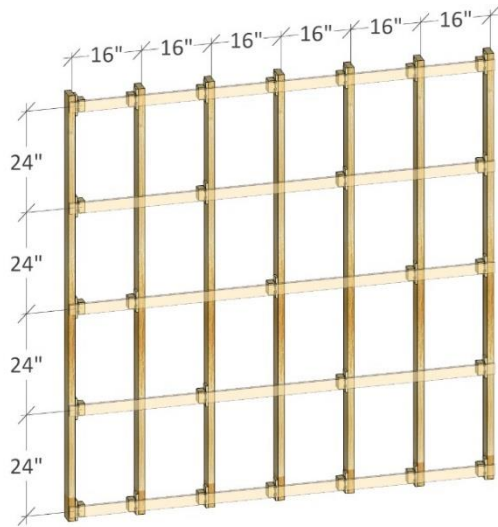
There's a learning curve in controlling noise, and a real discipline to following the rules. Take the time to understand the components and you'll be rewarded with peace of mind.



Suggested Raft Connector Spacing

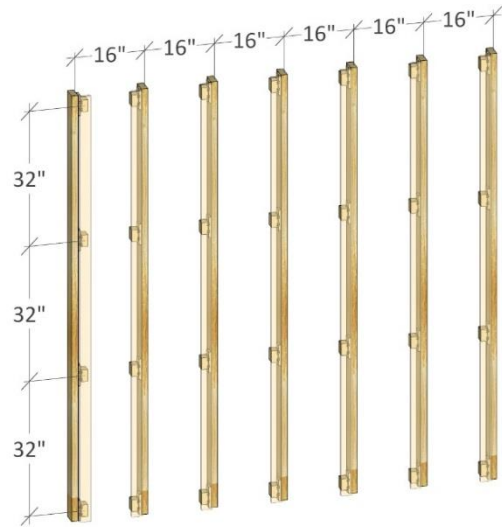
Framing 16" o.c.

Series 200's or 300's mounted on 16" o.c. framing with horizontal wall furring, or perpendicular ceiling furring.



*Installed staggered at 32" o.c. alternating rows in the field.

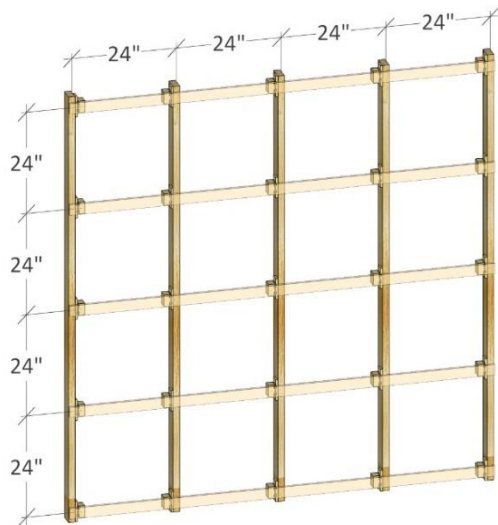
Series 200's, 300's or 400's mounted on 16" o.c. framing with vertical wall furring, or parallel ceiling furring.



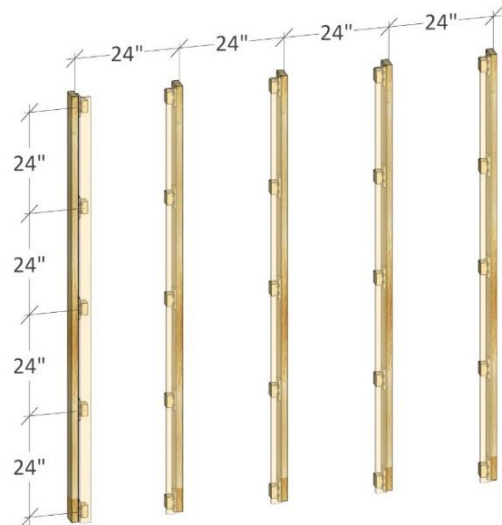
Framing installation displayed here are 300 Series

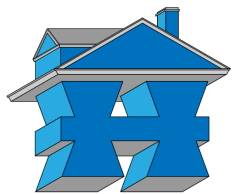
Framing 24" o.c.

Series 200's or 300's mounted on 24" o.c. framing with horizontal wall furring, or perpendicular ceiling furring.



Series 200's, 300's or 400's mounted on 24" o.c. framing with vertical wall furring, or parallel ceiling furring.





[<www.HushFrame.com>](http://www.HushFrame.com)

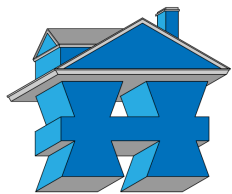
Simply fasten the Raft Connectors to the studs, joists or rafters



Then attached furring strips to the Raft Connectors



Proudly Made in the USA



<www.HushFrame.com>

Build non-weight bearing partitions and fasten to the underside of the ceiling furring.



All fixtures such as light cans and exhaust fans are attached to the furring, not the joists.



Proudly Made in the USA