



Specifier Note: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format, including MasterFormat, SectionFormat, and PageFormat, contained in the CSI Manual of Practice. This section must be carefully reviewed and edited by the Architect to meet the requirements of the project and local building code. Coordinate this section with other specification sections and any drawings.

Delete all "Specifier Notes" when editing this section.

SECTION 13 48 00 – Sound, Vibration, and Seismic Control

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. SonusClip DE90 resilient mounting bracket engineered for noise reduction via de-coupling in wall framing and ceiling systems.

1.2 RELATED SECTIONS

Specifier Note: Edit the following list of related sections as required for the project. List other sections with work directly related to this section.

- A. Section 05 40 00 – Cold-Formed Metal Framing
- Section 06 11 00 – Wood Framing
- Section 07 21 00 – Building Insulation
- Section 07 92 00 – Joint Sealants
- Section 09 11 00 – Non-Load-Bearing Wall Framing
- Section 09 20 00 – Gypsum Board
- Section 09 21 00 – Gypsum Board Assemblies
- Section 09 22 00 – Supports for Gypsum Board
- Section 09 50 00 – Ceilings
- Section 09 51 00 – Acoustical Ceilings
- Section 09 53 00 – Acoustical Ceiling Suspension Assemblies
- Section 09 80 00 – Acoustic Treatment
- Section 09 81 00 – Acoustic Insulation
- Section 10 22 00 – Partitions
- Section 23 05 29 – Hangers and Supports for HVAC Piping and Equipment

1.3 REFERENCES

Specifier Note: List standards referenced in this section, complete with designations and titles. This article does not require compliance with standards, but lists those used.

- A. AISI Specifications for Design of Cold-Formed Steel Structural Members
- B. ASTM B 633 – Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel
- C. ASTM C 645 – Standard Specification for Nonstructural Steel Framing Members
- D. ASTM C 754 – Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products
- E. ASTM C 840 – Standard Specification for Application and Finishing of Gypsum Board
- F. ASTM C 1002 – Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs

- G. ASTM D 412 – Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers – Tension
- H. ASTM D 573 – Standard Test Method for Rubber-Deterioration in an Air Oven
- I. ASTM D 2000 – Standard Classification System for Rubber Products in Automotive Applications
- J. ASTM D 2240 – Standard Test Method for Rubber Property - Durometer Hardness
- K. UL Fire Resistance Directories – www.ul.com

1.4 DESIGN REQUIREMENTS

Specifier Note: The SonusClip DE90 is a proprietary product used for mounting and decoupling in wall framing and ceiling systems. This significantly reduces the amount of impact and airborne sound filtering from rooms above, below, and alongside.

To maximize the noise control capacity and potential of the SonusClip DE90, a professional acoustical engineer should be consulted.

To maximize the acoustical performance of the SonusClip DE90, it is recommended the design load (dead or shear) not exceed 36 lb per SonusClip DE90.

- A. Dead or Shear Load: maximum design load of 36 lb per each SonusClip DE90.
- B. Conform to UL Fire Resistance Directory design assemblies, where required.

1.5 SUBMITTALS

- A. Submit the following in accordance with Section 01 33 00 – Submittal Procedures:
 - 1. Product Data: Acoustic test ratings, manufacturer’s product literature, installation instructions, and submittal drawing(s).
 - 2. Samples: Submit manufacturer’s samples.
 - 3. Warranty: Submit manufacturer’s standard warranty (for SonusClip DE90).

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: The manufacturer shall be a firm with a minimum of two years of successful experience in manufacturing products with similar requirements.
- B. Installer Qualifications: The installer shall be a firm with a minimum of two years of successful experience in installation of products with similar requirements.
- C. Mock-Up: Construct mock-up for evaluation. Obtain architect's approval of mock-up prior to proceeding with floating floor installation. Approved mock-up to serve as standard of quality of finished installation.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver product to site in original packaging, unopened, intact, with original labels of the manufacturer.
- B. Product and accompanying material to be kept clean, dry, and protected from harmful weather conditions during transport, storage, and installation.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, ventilation) within limits recommended by manufacturer. Do not install products under environmental conditions outside manufacturer's limits.

PART 2 PRODUCTS

2.1 RESILIENT SOUND ISOLATION BRACKET: REGUPOL[®] SONUSCLIP DE90

- A. Acceptable Manufacturer:
 - Regupol America
 - 11 Ritter Way
 - Lebanon, PA 17042
 - Toll Free Phone - (800) 537-8737
 - Phone - (717) 675-2198
 - Email - acoustics@regupol.com
 - Website - <http://www.regupol-acoustics.com>.
- B. Rubber Isolator:
 - 1. Manmade or natural organic rubber compounds.
 - 2. Molded to isolate ferrule from clip.
 - 3. Minimum of 12 micro-vibration controlling pedestals at point of contact with framing member.
 - 4. Manufactured to ASTM D 2000, M2 AA 510 A13, which includes:
 - a. Hardness, ASTM D 2240, Shore A: 45.
 - b. Modulus 300%, ASTM D 412, Die C: 5.3 MPa.
 - c. Tensile Strength, ASTM D 412, Die C: 11.2 MPa.
 - d. Elongation at Break, ASTM D 573: 454%.
- C. Clip: Galvanized or aluminum-zinc coated steel, 18 gauge.
- D. Ferrule: Zinc-electroplated steel.
- E. Flange length: 4"
- F. Substitutions: Not permitted.

Specifier Note: The following materials are not furnished by Regupol America.

2.2 MECHANICAL FASTENERS:

- A. Type: Self-drilling, self-tapping screws. Steel, ASTM C 1002. Galvanized coating, plated, or oil-phosphate coated, ASTM B 633, as needed for required corrosion resistance.
- B. Resilient Sound Isolation Bracket Connections:
 - 1. Isolator to Wood Framing Members: Screws 2-1/2" (63mm) minimum length, #8 minimum shank, Type W (course thread), bugle- or hex-head screws of equal or greater size.
 - a. Minimum Pullout and Shear: 108 lb.

2. Isolator to Steel Framing Members: Screws 1-5/8" (41mm) minimum length, #8 minimum shank, Type S (fine thread), self-drilling tip, bugle-, wafer-, or hex- head screws of equal or greater size.
 - a. Minimum Pullout and Shear: 108 lb.
3. Isolator to Concrete: Anchors 1-3/4" (44mm) minimum length, 3/16" to 1/4" diameter. Mushroom head or screw-in type anchor in accordance with fastener manufacturer's instructions. Powers Fasteners or approved equal.
 - a. Minimum Pullout and Shear: 120 lb.
4. Isolator to Concrete Masonry Units: Anchors 2-1/4" (57 mm) minimum length, 1/4" diameter. Designed for use in concrete masonry units in accordance with fastener manufacturer's instructions. Powers Fasteners or approved equal.
 - a. Minimum Pullout and Shear: 108 lb.
5. Flange to Wood: each (2) Screws 1-1/4" (32 mm) minimum length, #6 minimum shank, Type W (course thread).
 - a. Minimum Pullout and Shear: 108 lb.
6. Flange to Steel: each (2) Screws 1" (25mm) minimum length, #8 minimum shank, Type S (fine thread).
 - a. Minimum Pullout and Shear: 108 lb.

2.3 HANGER WIRE

- A. 12 gauge, annealed.

2.4 ACOUSTICAL SEALANT

- A. Flexible, non-hardening. As specified in Section 07 92 00.

2.5 FIRE/SMOKE SEALANT

- A. Flexible, non-hardening. Classified as an acoustical sealant. As specified in Section 07 92 00.

2.6 PUTTY PAD SEALANT

- A. Control noise transmission and fire resistance at electrical boxes and other penetrations. As specified in Section 07 92 00.

PART 3 EXECUTION

Specifier Note: Revise article below to suit project requirements and specifier's practice.

3.1 EXAMINATION

- A. Before installation, examine areas to receive materials. Notify the Architect if areas are not acceptable. Do not begin installation until the unacceptable conditions have been corrected.

3.2 INSTALLATION - GENERAL

- A. Install resilient sound isolation bracket in accordance with manufacturer's instructions.
- B. Mechanically fasten resilient sound isolation brackets to structure with screws, bolts, or expansion anchors, dependent upon structure.
- C. Fire-Resistive Design Assemblies:

1. Install as specified in UL Fire Resistance Directory, where required.
 2. Do not arbitrarily add resilient sound isolation brackets or clips to fire-rated assemblies.
- D. Space resilient sound isolation brackets at maximum of 48" by 48" (1,200 x 1,200mm) on center for ceilings.
- E. Do not exceed design load (pull and shear) of 36 lb per isolation bracket.
- F. Review installation details to prevent structure-borne flanking noise.
- G. Gypsum Board:
1. Install gypsum board in vertical or horizontal position with 1/8" (3mm) to 1/4" (6mm) gap around perimeter for acoustical sealant application.
 2. Install gypsum board in accordance with ASTM C 840 as specified in Section 09 25 00.
- H. Acoustical Sealant:
1. Seal potential air leaks with acoustical sealant to achieve best Field Sound Transmission Class (FSTC).
 2. Seal electrical outlets and penetrations with acoustical sealant.
 3. Apply fire-rated acoustical sealant at locations where fire-rated assembly is required.
- I. Putty Pad Sealant: Acoustically seal with putty pads, electrical boxes in walls and ceilings in which resilient sound isolation clips are used.

3.3 INSTALLATION – CEILINGS

Specifier Note: Special consideration should be given to all penetrations, such as recessed light fixtures, electrical boxes, exhaust fans, and sprinkler heads to ensure the control of both STC and IIC noise transfer. Consult Regupol America for additional information.

- A. Space resilient sound isolation brackets:
1. Maximum of 48" by 48" (1,200 x 1,200mm) on center with a single layer of 5/8" (16mm) gypsum board.
 2. Maximum of 48" x 24" (1,200 x 600mm) on center with a double layer of 5/8" (16mm) gypsum board.
- B. Fasten the resilient isolation brackets to the structure members with approved fasteners.
- C. Locate the first and last row of brackets within 8" from the wall.
- D. When drywall grid is used, the first row of brackets can be spaced at 48" from the wall provided wall angle is used to support the main runners and T's at the wall ceiling inter-section. The main runners and T's must be mechanically fastened to the wall angle with a screw or rivet.
- E. Use a minimum of 12 gauge annealed hanger wire tied to the bracket through the existing hole in the vertical flange of the bracket.
- F. When using tie wire attached to the bracket to hang a drywall grid ceiling, follow the installation instructions provided by the grid ceiling system manufacturer.

3.4 CLEANING

- A. Upon completion of installation, remove all materials, equipment, and debris from site.
- B. Leave work area in condition acceptable by architect.

3.5 SCHEDULES

Specifier Note: Retain paragraph below to suit project requirements. Reference a schedule or include a schedule as an attachment, which indicates where to locate products and equipment.

- A. Schedules: *(Specify reference to applicable schedules).*

END OF SECTION