



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.

The 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 the 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™ resilient sound isolation clips installed with drywall furring channel for support of gypsum board for noise control (de-coupling) in walls and ceilings.

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 25 00 – Gypsum Board
- Section 09 26 00 – Gypsum Board Assemblies
- Section 09 82 00 – Acoustic Insulation and Sealants

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™ is a proprietary product used for fastening gypsum wallboard to a supporting structure, while simultaneously isolating it from vibration. 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™, a professional acoustical engineer should be consulted.

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

- A. Dead or Shear Load: Maximum design load of 36 lb per each SonusClip.
- 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 resilient sound isolation clips (SonusClip™).

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 SOUND ISOLATION CLIP: REGUPOL® SONUSCLIP™

- 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. Projection: 1-5/8" from supporting structure, when 7/8" drywall furring channels are used.
- F. Substitutions: Not permitted.

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

2.2 DRYWALL FURRING CHANNELS (HAT TRACK):

- A. Material: Cold-formed galvanized steel.
- B. Conformance:
 - 1. AISI Specifications for Design of Cold-Formed Steel Structural Members.
 - 2. ASTM C 645.
 - 3. ASTM C 754.
- C. Designation: Steel Stud Manufacturers Association (SSMA) Code 08F125-18 (25 gauge).
 - 1. Size: 0.0179" (0.53mm) thick, 7/8" (22.2mm) height, 2-11/16" (68mm) width.
 - 2. Hemmed edge detail.

2.3 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 Clip Connections:
 - 1. 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. To Steel Framing Members (less than 20 gauge): Screws 1-1/2" (38mm) minimum length; #8 minimum shank; Type S (fine thread); bugle-, wafer-, or hex- head screws of equal or greater size.
 - a. Minimum Pullout and Shear: 108 lb.
 - 3. To Steel Framing (20 gauge through 12 gauge): Screws 1-1/2" (38mm) 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.
 - 4. 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: 108 lb.
 - 5. 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.

- C. Drywall Furring Channel Lap Joint Connection, Steel to Steel: Framing screws, button head, 7/16" (11 mm) minimum length, #6 minimum shank, needle point, Phillips drive or greater, or double-wire tie with 18 gauge tie wire.

2.4 TIE WIRE

- A. 18 gauge, annealed, galvanized steel.

2.5 ACOUSTICAL SEALANT

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

2.6 FIRE/SMOKE SEALANT

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

2.7 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 how 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 clips and drywall furring channels in accordance with manufacturer's instructions.
- B. Mechanically fasten resilient sound isolation clips 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 clips to fire-rated assemblies.
- D. Space resilient sound isolation clips at maximum of 24" (600mm) by 48" (1,200mm) on center for walls and ceilings.
- E. Do not exceed design load (pull and shear) of 36 lb per isolation clip.
- F. Stagger isolation clip installation, so the load is supported by all support members.
- G. Splicing Drywall Furring Channels:
 - 1. Splice drywall furring channels with minimum of 6" (150mm) laps.

2. Secure laps with 2 framing screws or 18 gauge tie wire double wrapped.
 3. Locate splices between resilient sound isolation clips.
 4. Do not locate splices on resilient sound isolation clips.
- H. Install resilient sound isolation clips on 1 side of wall assembly, unless otherwise indicated on the drawings.
- I. Flanking Noise:
1. Review installation details to prevent structure-borne flanking noise.
 2. Do not allow drywall furring channels or gypsum board to contact foreign materials, including floors, ceilings, or wall framing members.
- J. 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.
- K. 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.
- L. 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 – WALLS

Specifier Note: Special consideration should be given to concentrated and uniform load conditions, such as cabinets. Special consideration should be given to all penetrations to ensure the control of STC noise transfer. Consult Regupol America for additional information.

- A. Install drywall furring channels perpendicular to framing members.
- B. Space drywall furring channels maximum of 24" (600mm) on center.
- C. Locate first drywall furring channel parallel to floor and maximum of 3" (75mm) above floor and 1 drywall furring channel maximum of 6" (150mm) from ceiling.

3.4 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. Install drywall furring channels perpendicular, parallel, or angular to framing members.
- B. Space Drywall Furring Channels:
 - 1. Maximum of 24" (600mm) on center with:
 - a. Single layer of 5/8" (16mm) gypsum board.
 - b. Double layer of 5/8" (16mm) gypsum board, weighing less than 2.25 lb/sqft per layer.
 - c. Single layer of 1/2" (12mm) high-strength gypsum board.
 - d. Double layer of 1/2" (12mm) high-strength gypsum board.
 - 2. Maximum of 16" (400mm) on center with:
 - a. Double layer of 5/8" (16mm) gypsum board.
 - b. Single layer of 1/2" (12mm) regular-strength gypsum board.
 - c. Double layer of 1/2" (12mm) regular-strength gypsum board.
 - 3. Reduce spacing of drywall furring channels to prevent sagging of gypsum board or when additional loads are supported by resilient sound isolation clips.
- C. Locate resilient sound isolation clips maximum of 8" (200mm) from ends of drywall furring channels.
- D. Locate drywall furring channels maximum of 3" (75mm) from parallel wall assemblies.

3.5 CLEANING

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

3.6 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