



RC-1 BOOST

SECTION 134813 – MANUFACTURED SOUND AND VIBRATION CONTROL COMPONENTS PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. RC-1 Boost Isolator for wood wall and ceiling systems.
- B. Related Sections:
 - 1. Section 054000 "Cold-Metal Framing."
 - 2. Section 061000 "Rough Carpentry."
 - 3. Section 061100 "Wood Framing."
 - 4. Section 072100 "Thermal Insulation."
 - 5. Section 078413 "Penetration Firestopping."
 - 6. Section 079219 "Acoustical Joint Sealants."
 - 7. Section 092216 "Non-Structural Metal Framing."
 - 8. Section 092900 "Gypsum Board."

1.3 REFERENCES

- A. ASTM International:
 - 1. C754-15 Standard Specifications for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products.
 - 2. C840-16 Standard Specifications for Application and Finishing of Gypsum Board.
 - 3. C1002-16 Standard Specifications for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.
 - 4. D412-16 Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension.
 - 5. D573-04 (2015) Standard Method for Rubber-Deterioration in an Air Oven.

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6. D2000-12 Standard Classification System for Rubber Products in Automotive Applications.
7. D2240-15 Standard Test Method for Rubber Property-Durometer Hardness.

B. The American Iron and Steel Institute (AISI):

1. S200-Series Framing Standards Bundle.

C. UL Standards:

1. Fire-resistance Ratings.

1.4 SYSTEM DESCRIPTION

A. Design Requirements:

1. Dead or Shear Load: Maximum design load of 18 pounds per each RC-1 boost Isolator.
2. Fire-resistance Ratings: Comply with UL Fire-resistance Ratings where required.

1.5 DEFINITIONS

A. STC: Sound Transmission Class.

B. IIC: Impact Insulation Class

1.6 SUBMITTALS

- A. Comply with provisions of Section 013300 "Submittal Procedures."
- B. Product Data: For each type of product.
- C. Samples: For each type of product.
- D. Qualification Data: For acoustical engineer.

1.7 QUALITY ASSURANCE

- A. Acoustical Engineer Qualifications. Engineer with a 4-year degree in acoustics, physics, or other engineering discipline.
- B. Source Limitations: Obtain each type of RC-1 boost Isolator from single source from single manufacturer.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage: Store materials in clean, dry area indoors in accordance with manufacturer's instructions.



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- C. Handling: Protect materials during handling and installation to prevent damage.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer:
 - 1. PAC International LLC., 7260 W Azure Dr Ste 140-213, Las Vegas, NV, 89130, (866) 774-2100, www.pac-intl.com.
- B. Substitutions: Not permitted.

2.2 ISOLATION CLIPS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide PAC International LLC.; Model RC-1 Boost
- B. Rubber Isolator:
 - 1. Natural organic or manmade rubber compounds.
 - 2. Molded to isolate framing from metal channel.
 - 3. Minimum of ½" micro-vibration controlling isolator at point of contact with framing member.
 - 4. Manufactured to ASTM D 2000, M2 AA 510 A13:
 - a. Hardness, ASTM D 2240, Shore A: 45.
 - b. Modulus 300 Percent, 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 percent.

2.3 ACCESSORIES

- A. Resilient channel (RC-1 channel): As specified in Section 092216 "Non-Structural Metal Framing."
- B. Screws. Steel, ASTM C 1002. plated, ASTM B 633, as needed for required corrosion resistance.
- C. Resilient Sound Isolation Clip Connections:
 - 1. To Wood Framing Members: RC-1 Boost Wood screws, 2 inch (51 mm) minimum length, #7 minimum shank, Type W course thread.

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- a. Minimum Allowable Pullout and Shear: 54 pounds.

- D. Resilient channel Lap Joint Connection, Overlap at isolator and fasten ends together.
- E. Acoustical Sealant: As specified in Section 079219 "Acoustical Joint Sealants."
- F. Fire/Smoke Sealant: As specified in Section 078413 "Penetration Firestopping."
- G. Putty Pad Sealant: As specified in Section 078413 "Penetration Firestopping." PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas to receive materials. Notify Architect if areas are not acceptable.
 - 1. Do not begin installation until unacceptable conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. General: Install isolation clips in accordance with manufacturer's instructions.
- B. Mechanically fasten RC-1 Boost isolators through RC-1 channel to structure with screws provided
- C. Fire-resistive Design Assemblies:
 - 1. Install as specified in UL Fire Resistance Directory.
 - 2. Do not arbitrarily add RC-1 Boost isolators to fire-rated assemblies.
- D. Space resilient isolation clips as follows: at maximum of 24 inches (600 mm) by 16 inches (406 mm) on center for walls and ceilings.
- E. Do not exceed allow acoustical design load (pull and shear) of 18 pounds per RC-1 Boost isolator.
- F. Install RC-1 Boost isolators at every framing intersection so that the load is supported by all members.
- G. Install RC-1 Boost isolator on one side of wall assembly only, unless otherwise indicated on the Drawings.

- H. Flanking Noise:
 - 1. Review installation details to prevent structure-borne flanking noise.
 - 2. Do not allow RC-1 channel or gypsum board to contact foreign materials, including floors, ceilings, or wall framing members.

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- I. Gypsum Board: Install as specified in Section 092900 "Gypsum Board."
- J. Acoustical Sealant:
 - 1. Seal potential air leaks with acoustical sealant to achieve the best noise control.
 - 2. Seal electrical outlets and penetrations with acoustical sealant.
 - 3. Apply fire-rated acoustical sealant at locations where fire-rated assembly is required.
- K. 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

- A. Install RC-1 channel with RC-1 Boost isolators perpendicular to framing members.
- B. Space RC-1 channel with RC-1 Boost isolators maximum of 24 inches (600 mm) on center.
- C. Locate first RC-1 channel with RC-1 Boost isolators parallel to floor and maximum of 3 inches (75 mm) above floor and RC-1 channel with RC-1 Boost isolators maximum of 6 inches (150 mm) from ceiling.

3.4 INSTALLATION, CEILINGS

- A. Install RC-1 channel with RC-1 Boost isolators perpendicular, parallel, or angular to framing members.
- B. Space RC-1 channel with RC-1 Boost isolators:
 - 1. Maximum of 24 inches (600 mm) x 16 inches (400 mm) on center on center with:
 - a. Single layer of 5/8-inch (16-mm) gypsum board.
 - b. Double layer of 5/8-inch (16-mm) gypsum board, weighing less than 2.25 pounds per square foot per layer.
 - c. Single layer of 1/2-inch (12-mm) high-strength gypsum board.
 - d. Double layer of 1/2-inch (12-mm) high-strength gypsum board.
- C. Locate RC-1 channel with RC-1 Boost isolators maximum of 8 inches (200 mm) from ends of wall or ceiling.
- D. Locate RC-1 channel with RC-1 Boost isolators maximum of 3 (75 mm) from parallel walls or ceilings.

END OF SECTION 134813