

Specifications

WAVE Acoustical Leaf Spring Ceiling Hanger

Part 1 General

1.01 Work Included

- A. Furnish all labor, materials, tools, and equipment to install sound-isolated drywall ceilings. Construct sound-isolated drywall ceilings using acoustical leaf spring ceiling hangers where shown on contract drawings.

1.02 System Description

- A. Drywall furring channel shall be cradled by acoustical leaf spring ceiling hangers. Drywall furring channel shall not be fastened by mechanical fasteners directly to ceiling hangers. Gypsum board and other required materials of construction for sound-isolated ceilings then shall be attached to resiliently-supported drywall furring channel. Assembly shall be completely decoupled from non-isolated structural building components including at structural support members and at perimeter of room e.g. partitions, molding. This resiliently-supported assembly shall substantially reduce sound transmission through the floor/ceiling or roof/ceiling construction.

1.03 Quality Assurance

- A. Acoustical leaf spring ceiling hanger shall be designed and supplied by a manufacturer having a minimum of five-years experience in furnishing similarly-used sound control products.

1.04 Submittals

- A. Submit product data
 - 1. Catalog data sheet.
 - 2. Acoustical Performance
 - a. Sound Transmission Loss Test Report per ASTM E90-04 documenting a minimum STC 60 floor/ceiling assembly composed of 5/8-in. engineered hardwood floor, 3-mm resilient sound control underlayment, 3/4-in. T&G subfloor, 6-1/2-in. fiber glass insulation, 11-7/8-in. tall I-Joists, 24-in. o.c., with acoustical leaf spring ceiling hanger supporting drywall furring channel and two (2) layers of "Type X" drywall. Also submit for same assembly an Impact Isolation Test Report per ASTM E 492-04 documenting a minimum IIC 57.

- b. Sound Transmission Loss Test Report per ASTM E90-04 documenting a minimum STC 61 floor/ceiling assembly composed of ceramic tile floor directly bonded to a 3-mm resilient sound control underlayment, 5/8-in. plywood over a 3/4-in. T&G subfloor, 6-1/2-in. fiber glass insulation, 11-7/8-in. tall I-Joists 24-in. o.c., with acoustical leaf spring ceiling hanger supporting drywall furring channel and two (2) layers of "Type X" drywall. Also submit for same assembly an Impact Isolation Test Report per ASTM E 492-04 documenting a minimum IIC 56.
 - c. Impact Isolation Test Reports per ASTM E 492-04 documenting not more than an average of 60-dB Impact Sound Pressure Level (ISPL) from 50-hz to 125-hz for assembly described in 1.04A2a, and 59-dB ISPL for assembly described in 1.04A2b.
3. Sound test reports must be from an independent laboratory accredited by the National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP).

Part 2.00 Product

2.01 Materials

- A. Acoustical leaf spring ceiling hanger shall be WAVE Hanger as designed by Kinetics Noise Control (Kinetics), Dublin, Ohio, and provided by Kinetics or one of Kinetics authorized representatives. Represented by KPA Architectural Products in New England – Contact Keith Peterson (508) 591-7500
- B. Vertical Load Capacity. Hangers shall have sufficient capacity to support weight of isolated ceiling material as constructed. In a vertical load test comparable to a sound-isolated drywall ceiling installation, the acoustical leaf spring ceiling hanger shall have a minimum design load capacity of either 44- or 22-lbs., depending on the model selected. Design Load capacity shall be based on a safety factor where the load-to-failure, defined as either pullout of the attachment screws from the substrate or rupture of the hanger, is a minimum 10 times the allowable maximum Design Load. Anchors for attachment of the acoustical leaf spring ceiling hanger to the sub-structure shall be 10 x 1-1/2-in. Round Washer Recex Lo Root screws. The anchors shall be provided by the manufacturer of the acoustical leaf spring ceiling hangers.
- C. Deflection and Natural Frequency. Acoustical leaf spring ceiling hanger shall deflect 0.44-in. (minimum) at rated load; Natural Frequency at rated load shall be 4.8-hz (maximum).
- D. Acoustical leaf spring ceiling hanger shall be rated for 2-g seismic restraint capacity.
- E. Acoustical leaf spring ceiling hanger shall be manufactured using continuous-formed, hardened spring steel into which a standard galvanized steel furring channel, 7/8-in. x minimum 20-gauge, is captured. The drywall furring channel shall be supported by the

acoustical leaf spring ceiling hanger, and cannot be directly attached to or contacting any non-isolated building elements.

Part 3.00 Execution

3.01 Installation

- A. General – Install work in accordance with the manufacturer's approved product installation procedures.
- B. Spacing and location of acoustical leaf spring ceiling hanger shall be determined by the manufacturer based on ceiling type. Maximum hanger spacing shall be 48-in. along each drywall furring channel and 24-in. between drywall furring channels. Installation drawing details shall be provided by the manufacturer to assure optimum sound control and structural integrity of the sound-isolated drywall ceiling system.