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February 10, 2006

Re: Universal Slider Bracket™ Decibel Test Comparison

These test results were originally published on February 1, 2002. We are reissuing this information to address questions pertaining to noise reduction products from Sioux Chief.

The purpose of our test was to identify noise *improvement* levels (decibel) with Sioux Chief's Universal Slider Bracket and compare these levels to other products commonly used in the plumbing industry. Acoustical testing was performed by Sioux Chief's Engineering Department and the results have been validated by a third party engineering firm, Engineered Efficiency, Mr. Stephen Birchmeier, Harrisonville, Missouri.

The control point was a 2-hole copper plated metal strap mounted on a 2x4 wood brace. Noise transmission was recorded at the identical location using 2x4 wood frame construction, Type-L 1/2" copper tube and a flow of 4 gallons per minute at 60 psi. The following products were tested:

- Sioux Chief Padlock™ Tube Clamp
- LSP ACOUSTO-Clamp®
- Sioux Chief Universal Slider Bracket™

Details of Test:

Acoustical tests were performed securing type-L, 1/2" copper tube with the aforementioned clamps using wood screws on a 2x4 brace, 16 inches long. The brace was secured between a 2x4 stud wall cavity with wood screws. The 2-hole copper plated metal tube strap, Padlock™ and ACOUSTO-Clamp® were fastened to the wood brace.

A Scott Instruments Laboratory Sound Level Meter Type 451/ANSI Type S3A; Sound Level A-weighted was used to record the sound.

The exact test was duplicated using the Universal Slider Bracket™ (522-1614) extended to fit between and then screwed into the same 2x4 stud wall cavity. All decibel recordings were taken at a point 6 inches below the 2x4 cross member bracket or Universal Slider Bracket™ in the center of one of the two support studs. This point was selected to determine the amount of noise that was being transmitted through the structure.

TEST RESULTS

Reference Point	Reference Point db Level Recorded	Products Tested	db Level Recorded	Improvement Level & Decibel Reduction
2-hole, copper- plated metal tube strap.	68 db	Sioux Chief Padlock	63 db	5 db
		Sioux Chief USB Model 522-1614	59 db	9 db
		LSP ACOUSTA® clamp	56 db	12 db
		USB Model 522-1614 with 522-100B Top Bridge Noise Reduction Insert	55 db	13 db

*LSP ACOUSTO-Plumb System has been tested and reported (J.J. Van Houton & Associates Consulting Engineers in Acoustics, Test Report No. 802 79) to reduce plumbing noise between 8 and 9 decibels more efficiently than felt packing.

Note: Decibel reduction is only possible if the installer takes steps to ensure that **ALL** tube is adequately isolated from direct contact with the building structure in order to realize **ANY** noise reduction. The potential exists for noise to be transmitted into the structure if tube is allowed to contact the building at any **ONE** point.

Sioux Chief Mfg. Co., Inc.

Carol Flanagan
 Product Group Director - Hangers & Brackets

SALES

Smart Products for Smart Plumbers



Hangers & Brackets



Preformed Copper



Arresters & Trap Primers



Drainage Products



Plumbing Specialties



Civil and Environmental Engineering

Engineered Efficiency

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MEMORANDUM

Re: Acoustical Testing of the Universal Slider Bracket

The Sioux Chief Manufacturing Engineering Department performed acoustical testing described in the attached memorandum dated February 1, 2002. The wood framed apparatus, representing typical wood framed construction, used in the testing was isolated in a building to reduce the influence of outside noise. The water pressure was maintained at a constant 60 psi using a pressure regulator. Decibel recordings were taken at the same location on the structure using a "Scott's Instrument Laboratories, Type 451 Sound Level Meter, ANSI Type S3A ". Results of testing are presented in the above referenced memorandum. All testing procedures reviewed and discussed were performed using good engineering judgement and consistency; Therefore, the tests are considered valid.

If you have any question, please call me at 816-380-4447.

Sincerely,

Stephen Birchmeier P.E.



2/02/02