



April 28, 2019

ClarkDietrich
 9050 Centre Point Drive, Suite 400
 West Chester, Ohio 45069

Attention: Mr. Adam Shoemaker

Subject: **ProSTUD Acoustical Performance**
Acoustical Performance of Stud Spacing Modifications
Laboratory Testing Evaluation
VA Project Number 5123-019

Dear Adam:

This letter presents Veneklasen Associates, Inc. (VA) review of the STC rating changes when the stud spacing is modified for ProSTUD metal studs in laboratory tests conducted at Western Electro-Acoustic Laboratory (WEAL). To perform this analysis, the STC rating from walls tested at the lab were reviewed in conjunction with acoustical test data available within the industry.

In the lab, one wall, a 3-5/8 inch ProSTUD Pro 25 steel stud wall with resilient channel and insulation in the stud cavity was modified from 24 inches on center to 16 inches on center. The laboratory STC rating is shown in the table below for the conditions tested.

Stud Spacing	STC Rating		
	1 layer of gypsum board each side of wall	1 layer of gypsum board on one side and 2 layers on the opposing side	2 layers of gypsum board each side of wall
16 inches on center	51	58	62
24 inches on center	52	59	62

In addition, in reviewing the octave band data from these tests, the variance in transmission loss in any octave band is no greater than 2 dB lower for the 16 inch spacing when compared with the 24 inch spacing.

This data is consistent with other information available in the acoustical community for gypsum board attached directly to studs. The average variance for walls where the stud spacing is reduced from 24 to 16 inches on center is 2 STC points.

Based on the information currently available with the presence of a resilient channel, the acoustical performance of the walls tested when the ProSTUD spacing is modified (and all other elements are held constant) will result in a STC rating increase no greater than 1 STC point for stud spacing changes of 12 to 24 inches.

In reviewing data with gypsum board directly attached to the studs (no resilient channel), the acoustical performance when the ProSTUD spacing is modified (and all other elements are held constant) will result in a STC rating increase of no greater than 2 STC points for stud spacing changes of 12 to 24 inches.

If you have any questions or comments, please do not hesitate to call.

Sincerely,
Veneklasen Associates, Inc.

John LoVerde, FASA
 Principal