


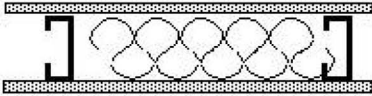
THERMO BOARD™

"A Green Building Product that last for generations "

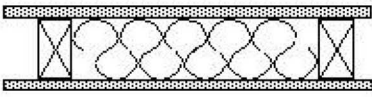
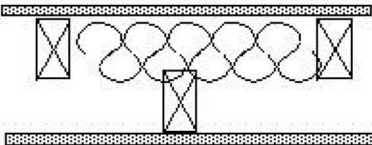
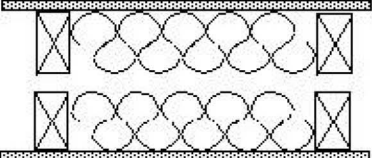
TECHNICAL BULLETIN NO	01222 -1023
Subject	STC Rating of Thermo Board and Insulation
Issue Date	Feb 9th 2010
Issue No	1

The Below mentioned charts are only representative of what a **Thermo Board™** wall assembly will provide in terms of STC Values.

*** STC rating of an assembly will noticeably improve with insulation**

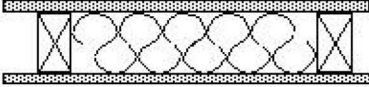
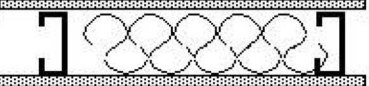
Description	Estimated STC Rating	Wall Assembly
3 5/8" metal studs, 12mm Thermo Board , one sheet each side and no insulation	38 - 40	
3 5/8" metal studs, 12mm Thermo board, one sheet each side and ThermoCon Panel insulation (30mm)	43 - 44	

*** Staggered or double stud walls are higher rated than single stud walls.**

Description	Estimated STC Rating	Wall Assembly
2x4 stud wall, 12mm Thermo Board one sheet each side and ThermoCon Panel insulation (30mm)	34 - 39	
Staggered 2x4 studs, 12mm Thermo board, one sheet each side and ThermoCon Panel insulation (30mm)	46 - 47	
Double 2x4 stud wall, 12mm Thermo board, one sheet each side and ThermoCon Panel insulation (30mm)	56 - 59	

*** Metal Stud walls perform better than wood stud walls.**

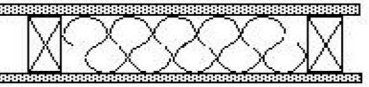
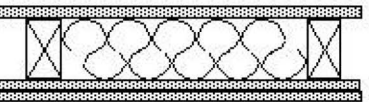
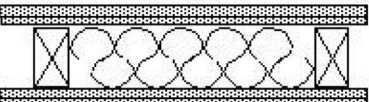
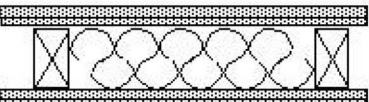
(Note: This only applies to single stud assemblies. For double stud assemblies , there is virtually no difference)

Description	Estimated STC Rating	Wall Assembly
2x4 studs, 12mm Thermo Board, one sheet each side and ThermoCon Panel insulation (30mm)	34 - 39	
3 5/8" metal studs, 12mm Thermo board, one sheet each side and ThermoCon Panel insulation (30mm)	43 - 44	

*** Resilent channel can improve the STC rating of an assembly**


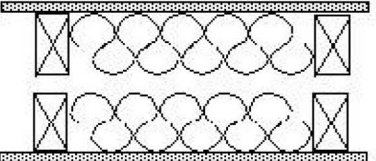
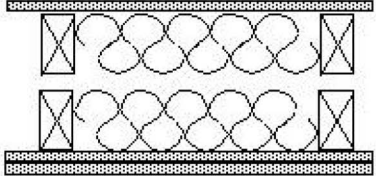
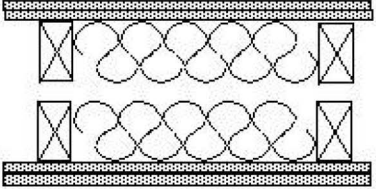
(Note: These ratings are based on laboratory tests. Because of the special care required when installing resilent channels, actual results could be substantially lower)

See note below for defination of resilent channel.

Description	Estimated STC Rating	Wall Assembly
2x4 stud wall, 12mm Thermo Board one sheet each side and ThermoCon Panel insulation (30mm)	34 - 39	
2x4 studs, 12mm Thermo board, three sheet total , one sheet on one side, two sheets on the opposite side and ThermoCon Panel insulation(30mm)	39 - 40	
2x4 studs,12 mm Thermo Board, four sheets total, two sheets on each side and ThermoCon Panel insulation(30mm)	43 - 45	
metal studs,plus 9 mm Thermo Board, four sheets total, two sheets on each side stuck with Rubberised glue and ThermoCon Panel insulation (30mm)	53 - 55	

*** Dry Wall between double studs can dramatically reduce the STC rating of an Assembly**

(Note: This only applies to single stud assemblies. For double stud assemblies , there is virtually no difference)

Description	Estimated STC Rating	Wall Assembly
2x4 studs, 12mm Thermo Board, four sheets total, one on each side of each wall and ThermoCon Panel insulation (30mm)	44 - 45	
Double 2x4 stud walls, 12mm Thermo board, one sheet each side and double ThermoCon Panel insulation.(30mm)	56 - 59	
Double 2x4stud wall, 12mm Thermo board, three sheets total, one sheet on one side and two sheets on the opposite site and ThermoCon Panel insulation(30mm)	59 - 60	
Double 2x4 stud walls, 12mm Thermo board, four sheets total , two sheets on each side and ThermoCon Panel insulation(30mm)	58 - 63	

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* Question and Answers :

Q: What insulation was used in the above testing ?

A: Fiber glass

Q: Can Rock wool insulation improve STC value ?

A: Testing indicates rock wool insulation can indeed improve STC values in wall Assemblies

Q: What are Resilient wall Channels ?

A: Resilient Channel is a specially-formed, sturdy metal device that, when used to hang drywall (Instead of just attaching the drywall to the studs or joists) GREATLY improves the sound transmission characteristics of the wall or ceiling system. See picture below:

Q: What is the meaning of STC?

A: The Sound Transmission Class (STC) is a single -number rating of a material's or an assembly's ability to resist airborne sound transfer at the frequencies 125-4000Hz

In general, a higher STC rating blocks more noise from transmitting through a Partition.

Q: How do changes in STC values reflect Changes in Apparent Loudness ?

A: See Below

Changes in STC Rating	Changes in Apparent Loudness
+/- 1	Almost imperceptible
+/- 3	Just perceptible
+/- 5	Clearly noticeable
+/- 10	Twice (or Half) as loud

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