

To Whom It May Concern

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Sound insulation performance of Hilti CFS-TTS Ex

Dear Madam/Sir,

The sound insulation performance of Hilti CFS-TTS E variants has been tested by the IFT Rosenheim according to EN ISO 140-1/2 and interpreted according EN ISO 717-1 as published in assessment 17-001738-PR03 GAS-E03-04-en-02.

The sound performance of a wall with Hilti CFS-TTS E used as insulation of the head of wall can be assessed as follows

1. Determine the sound performance of the wall construction provided by the drywall manufacturer, without joint.
2. Refer to table 1 for single stud partition walls, check table 2 for double stud applications.
3. Find for the nominal acoustic performance of the wall, on **col 1**
4. Get the expected values with a traditional deflection head (**col 2**) or Hilti CFS-TTS E installed (**col 3 to 6**, depending on the width) out of the same line.

Examples for typical wall performance of a fire rated wall

- a) Single stud, 50 mm, 2x 12,5 mm fire boards, without insulation
- b) Single stud, 70 mm, 2x 12,5 mm fire boards, without insulation
- c) Single stud, 92 mm, 2x 12,5 mm fire boards, without insulation
- d) Single stud, 146 mm, 2x 12,5 mm fire boards, without insulation

Typical example wall		Classic deflection head		CFS-TTS E	
Stud width	Acoustic value of wall given by manufacturer Col 1	Resulting acoustic performance of wall with deflection head Col 2	Resulting acoustic performance of wall with Hilti CFS-TTS Col 3 to 6		
a)	50 mm	44 dB	38 dB	CFS-TTS E5	44 dB
b)	70 mm	46 dB	38 dB	CFS-TTS E7	46 dB
c)	92 mm	48 dB	38 dB	CFS-TTS E9	48 dB
d)	146 mm	52 dB	39 dB	CFS-TTS ES	51 dB

Table 1 – Single Stud

Col 1	Col 2	Col 3	Col 4	Col 5	Col 6
Sound insulation of wall w/o sound transmission via joints $R_{w,Wall} + C_{tr}$	Sound transmission through the wall including the transmission via conventional joint (deflection head) $D_{nT,w} + C_{tr}$	Sound transmission through the wall including the transmission via flexible joint Hilti CFS-TTS E9 $D_{nT,w} + C_{tr}$	Sound transmission through the wall including the transmission via flexible joint Hilti CFS-TTS E7 $D_{nT,w} + C_{tr}$	Sound transmission through the wall including the transmission via flexible joint Hilti CFS-TTS E6 $D_{nT,w} + C_{tr}$	Sound transmission through the wall including the transmission via flexible joint Hilti CFS-TTS E5 $D_{nT,w} + C_{tr}$
30 dB	29 dB	30 dB	30 dB	30 dB	30 dB
32 dB	31 dB	32 dB	32 dB	32 dB	32 dB
34 dB	33 dB	34 dB	34 dB	34 dB	34 dB
36 dB	34 dB	36 dB	36 dB	36 dB	36 dB
38 dB	35 dB	38 dB	38 dB	38 dB	38 dB
40 dB	36 dB	40 dB	40 dB	40 dB	40 dB
42 dB	37 dB	42 dB	42 dB	42 dB	42 dB
44 dB	38 dB	44 dB	44 dB	44 dB	44 dB
46 dB	38 dB	46 dB	46 dB	46 dB	46 dB
48 dB	38 dB	48 dB	48 dB	48 dB	48 dB
50 dB	38 dB	49 dB	49 dB	49 dB	49 dB
52 dB	39 dB	51 dB	51 dB	51 dB	51 dB
54 dB	39 dB	53 dB	53 dB	53 dB	53 dB

Table 2 - Double Stud

Col 1	Col 2	Col 3	Col 4	Col 5	Col 6
Sound insulation of wall w/o sound transmission via joints $R_{w,Wall} + C_{tr}$	Sound transmission through the wall including the transmission via conventional joint (deflection head) $D_{nT,w} + C_{tr}$	Sound transmission through the wall including the transmission via flexible joint Hilti CFS-TTS E9 $D_{nT,w} + C_{tr}$	Sound transmission through the wall including the transmission via flexible joint Hilti CFS-TTS E7 $D_{nT,w} + C_{tr}$	Sound transmission through the wall including the transmission via flexible joint Hilti CFS-TTS E6 $D_{nT,w} + C_{tr}$	Sound transmission through the wall including the transmission via flexible joint Hilti CFS-TTS E5 $D_{nT,w} + C_{tr}$
30 dB	30 dB	30 dB	30 dB	30 dB	30 dB
32 dB	32 dB	32 dB	32 dB	32 dB	32 dB
34 dB	34 dB	34 dB	34 dB	34 dB	34 dB
36 dB	35 dB	36 dB	36 dB	36 dB	36 dB
38 dB	37 dB	38 dB	38 dB	38 dB	38 dB
40 dB	39 dB	40 dB	40 dB	40 dB	40 dB
42 dB	40 dB	42 dB	42 dB	42 dB	42 dB
44 dB	42 dB	44 dB	44 dB	44 dB	44 dB
46 dB	43 dB	46 dB	46 dB	46 dB	46 dB
48 dB	44 dB	48 dB	48 dB	48 dB	48 dB
50 dB	44 dB	49 dB	49 dB	49 dB	49 dB
52 dB	45 dB	51 dB	51 dB	51 dB	51 dB
54 dB	45 dB	53 dB	53 dB	53 dB	53 dB

Aside the example, you can assess every wall independent of board type and with or without insulation. You just use the given value of the board manufacturer and refer to the same line to get the corresponding CFS-TTS value.

Explore the high performance of Hilti CFS-TTS E solution!

With best regards



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