

# Sound Insulation Prediction (v7.0.7)

Program copyright Marshall Day Acoustics 2012



# INSUL

Microsoft - Key No. 1072

Margin of error is generally within  $R_w \pm 3$  dB

Job Name:

Job No.:

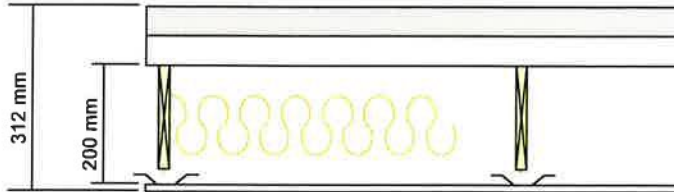
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Notes:

Date: 15 iun. 15

Initials:

File Name: insul



$R_w$	58 dB
C	-1 dB
$C_{tr}$	-4 dB

## System description

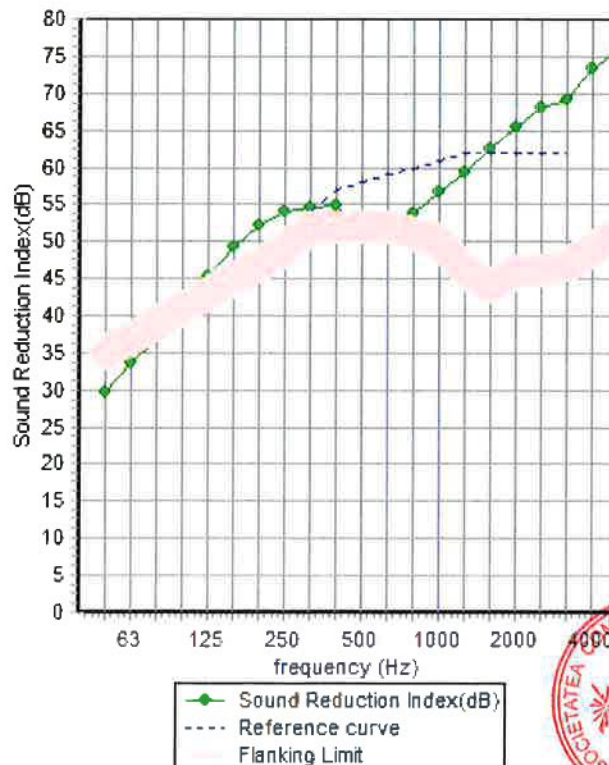
Panel 1 Outer layer: 1 x 50,0 mm Lightweight concrete- ( $m=65,0$  kg/m<sup>2</sup>,  $f_c=769$  Hz, Damping=0,01) Profile  
 Panel 1 Inner layer: 1 x 50,0 mm Polistiren extrudat (XPS) ( $m=1,0$  kg/m<sup>2</sup>,  $f_c=106$  Hz, Damping=0,01)

Cavity: Suspended light steel grid @ 1 mm , Infill Glaswolle (10kg/m<sup>3</sup>) Thickness 100 mm  
 Panel 2 Inner layer: 1 x 12,5 mm NIDAstandard 12,5mm- ( $m=9,0$  kg/m<sup>2</sup>,  $f_c=3106$  Hz, Damping=0,01) Profile

Mass-air-mass resonant frequency =40 Hz

Panel Size 2,7x4 m

frequency (Hz)	TL(dB)	TL(dB)
50	30	
63	34	32
80	37	
100	41	
125	45	44
160	49	
200	52	
250	54	53
315	54	
400	55	
500	52	52
630	51	
800	54	
1000	57	56
1250	59	
1600	63	
2000	65	65
2500	68	
3150	69	
4000	73	72
5000	76	



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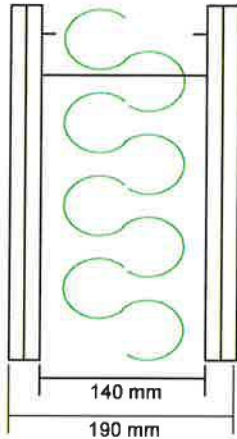
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**$R_w$  57 dB**

$C$  -2 dB

$C_{tr}$  -7 dB

## System description

Panel 1 Outer layer: 2 x 12,5 mm NIDAstandard 12,5mm- ( $m=18,0$  kg/m<sup>2</sup>,  $f_c=3106$  Hz, Damping=0,01) Profile

Cavity: Steel stud @ 600 mm , Infill Glaswolle (10kg/m<sup>3</sup>) Thickness 100 mm

Panel 2 Inner layer: 2 x 12,5 mm NIDAstandard 12,5mm- ( $m=18,0$  kg/m<sup>2</sup>,  $f_c=3106$  Hz, Damping=0,01) Profile

Mass-air-mass resonant frequency =45 Hz

Panel Size 2,7x4 m

frequency (Hz)	TL(dB)	TL(dB)
50	19	
63	24	22
80	29	
100	33	
125	38	36
160	43	
200	46	
250	49	49
315	52	
400	53	
500	55	55
630	57	
800	59	
1000	60	60
1250	61	
1600	64	
2000	63	60
2500	58	
3150	53	
4000	57	56
5000	60	



◆ Sound Reduction Index(dB)  
--- Reference curve  
 Flanking Limit



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Job Name:

Job No.:

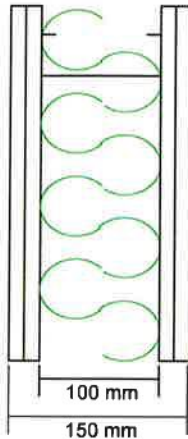
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**$R_w$  56 dB**

**C -3 dB**

**$C_{tr}$  -8 dB**

## System description

Panel 1 Outer layer: 2 x 12,5 mm NIDAstandard 12,5mm- ( $m=18,0$  kg/m<sup>2</sup>,  $f_c=3106$  Hz, Damping=0,01) Profile

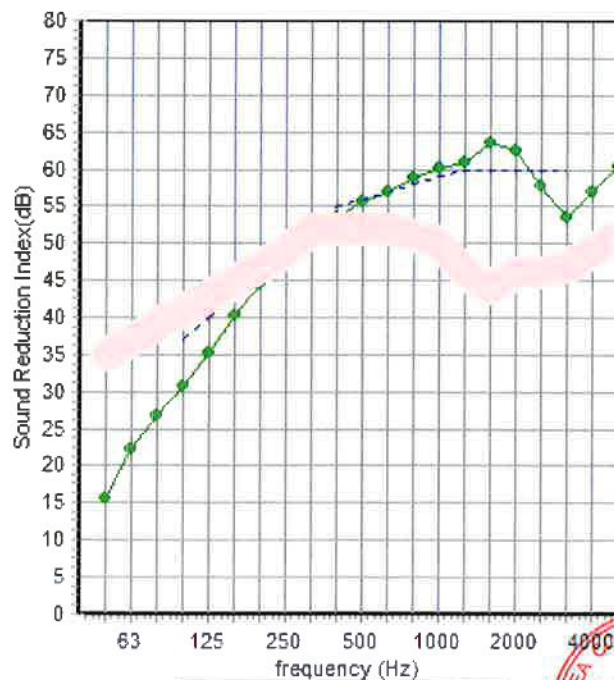
Cavity: Steel stud @ 600 mm , Infill Glaswolle (10kg/m<sup>3</sup>) Thickness 100 mm

Panel 2 Inner layer: 2 x 12,5 mm NIDAstandard 12,5mm- ( $m=18,0$  kg/m<sup>2</sup>,  $f_c=3106$  Hz, Damping=0,01) Profile

Mass-air-mass resonant frequency =54 Hz

Panel Size 2,7x4 m

frequency (Hz)	TL(dB)	TL(dB)
50	16	
63	22	19
80	27	
100	31	
125	35	34
160	40	
200	45	
250	48	47
315	51	
400	54	
500	56	55
630	57	
800	59	
1000	60	60
1250	61	
1600	64	
2000	63	60
2500	58	
3150	53	
4000	57	56
5000	60	



—●— Sound Reduction Index(dB)  
- - - Reference curve  
 Flanking Limit



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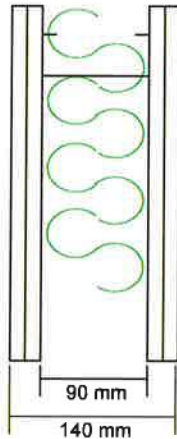
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**$R_w$  56 dB**

$C$  -3 dB

$C_{tr}$  -9 dB

## System description

Panel 1 Outer layer: 2 x 12,5 mm NIDAstandard 12,5mm- ( $m=18,0$  kg/m<sup>2</sup>,  $f_c=3106$  Hz, Damping=0,01) Profile

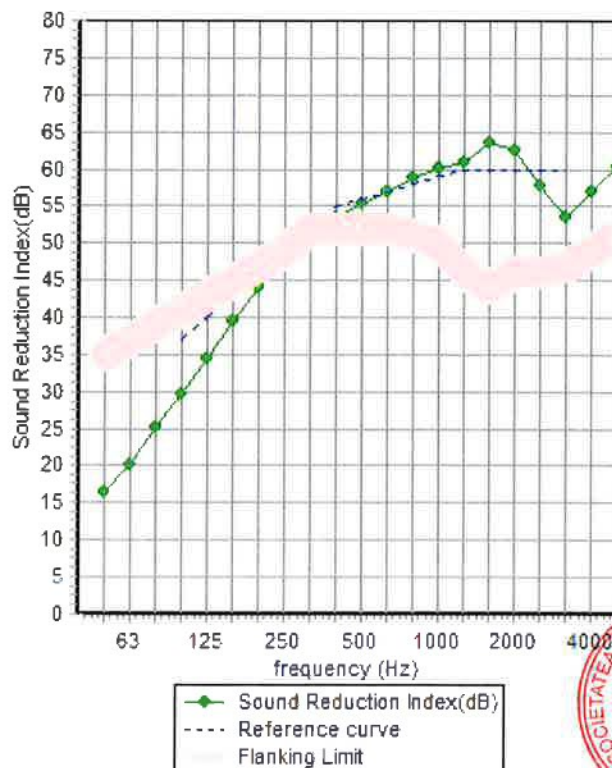
Cavity: Steel stud @ 600 mm , Infill Glaswolle (10kg/m<sup>3</sup>) Thickness 80 mm

Panel 2 Inner layer: 2 x 12,5 mm NIDAstandard 12,5mm- ( $m=18,0$  kg/m<sup>2</sup>,  $f_c=3106$  Hz, Damping=0,01) Profile

Mass-air-mass resonant frequency =56 Hz

frequency (Hz)	TL(dB)	TL(dB)
50	16	
63	20	19
80	25	
100	30	
125	34	33
160	40	
200	44	
250	48	47
315	51	
400	53	
500	55	55
630	57	
800	59	
1000	60	60
1250	61	
1600	64	
2000	63	60
2500	58	
3150	53	
4000	57	56
5000	60	

Panel Size 2,7x4 m



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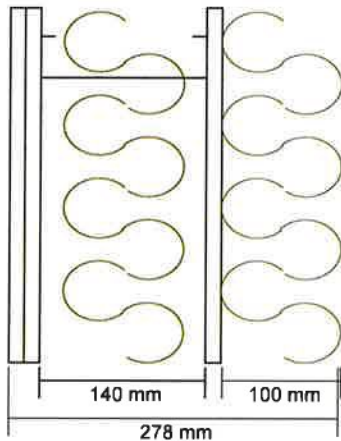
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Notes:



INSUL



$R_w$  55 dB

C -2 dB

$C_{tr}$  -6 dB

## System description

Panel 1 Outer layer: 2 x 12,5 mm NIDAstandard 12,5mm- ( $m=18,0$  kg/m<sup>2</sup>,  $f_c=3106$  Hz, Damping=0,01) Profile

Cavity: Steel stud @ 600 mm , Infill Rockwool (48kg/m<sup>3</sup>) Thickness 100 mm

Panel 2 Inner layer: 1 x 12,5 mm Fermacell 12.5- ( $m=14,4$  kg/m<sup>2</sup>,  $f_c=2855$  Hz, Damping=0,01) Profile

Cavity: None @ 600 mm , Infill Rockwool (48kg/m<sup>3</sup>) Thickness 100 mm

Panel 3 Inner layer: 0 x 25,0 mm CSR Shaft Liner Panel- ( $m=0,0$  kg/m<sup>2</sup>,  $f_c=1323$  Hz, Damping=0,01) Profile

Mass-air-mass resonant frequency =45 Hz , 84

Panel Size 2,7x4 m

frequency (Hz)	TL(dB)	TL(dB)
50	16	
63	21	20
80	27	
100	32	
125	36	35
160	41	
200	45	
250	48	47
315	51	
400	52	
500	54	54
630	56	
800	58	
1000	59	59
1250	60	
1600	62	
2000	60	57
2500	54	
3150	51	
4000	55	54
5000	58	



◆ Sound Reduction Index(dB)  
--- Reference curve  
█ Flanking Limit

