

# Project proposal

**Client:** -----

**Author:** David Muñoz López (Responsible of Research and Development)

**Mob:** 699 42 74 02. @: Ingenieria@senor.es.

**Number of report:** M26102022/COMPLETE SOLUTION

**Worksite:** ACOUSTIC TREATMENT FOR ROOM WALL



## 1º IMPACT NOISE AND VIBRATION ACOUSTIC WALL

### Purpose

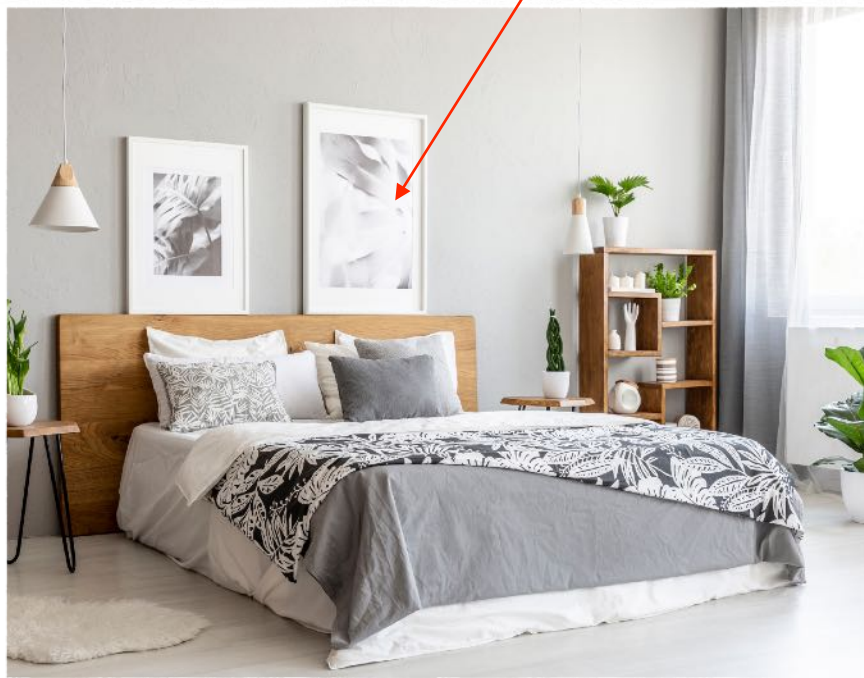
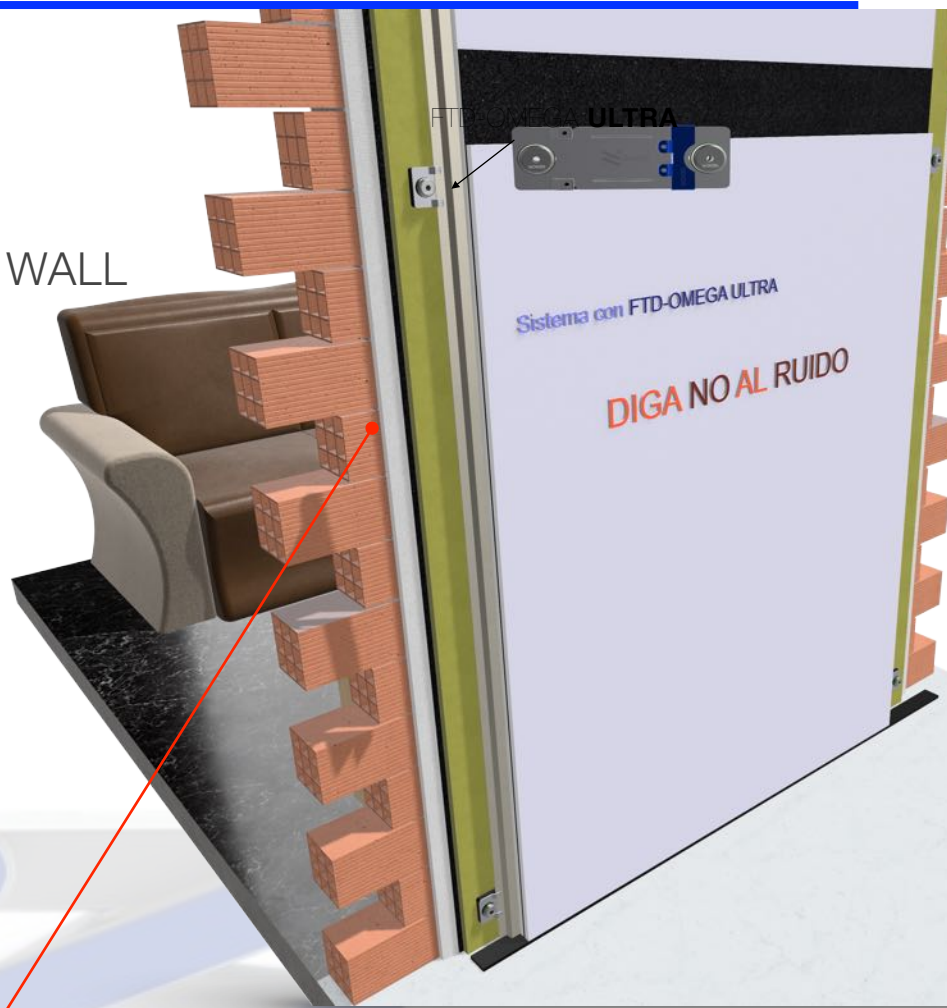
The purpose of this report is to calculate the best mount for the solution and the quantity needed in order to build an ACOUSTIC WALL by using Ref.**SE-FTD. OMEGA -ULTRA** mounts

### Information

TOTAL ROOM AREA = 15 m<sup>2</sup>

### CALCULATED WITH

Height: 3 m. / Length: 5 m.



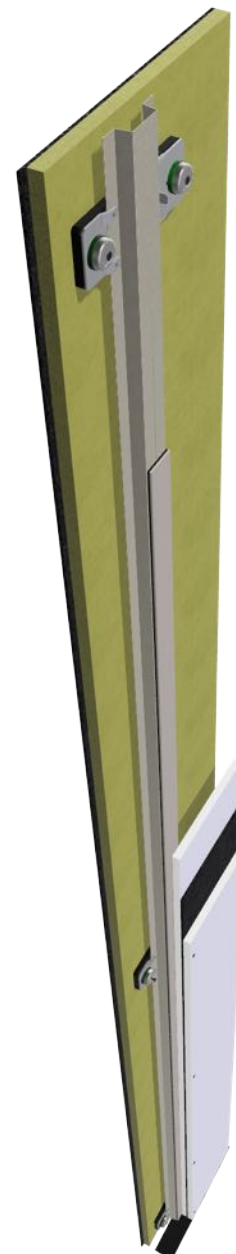
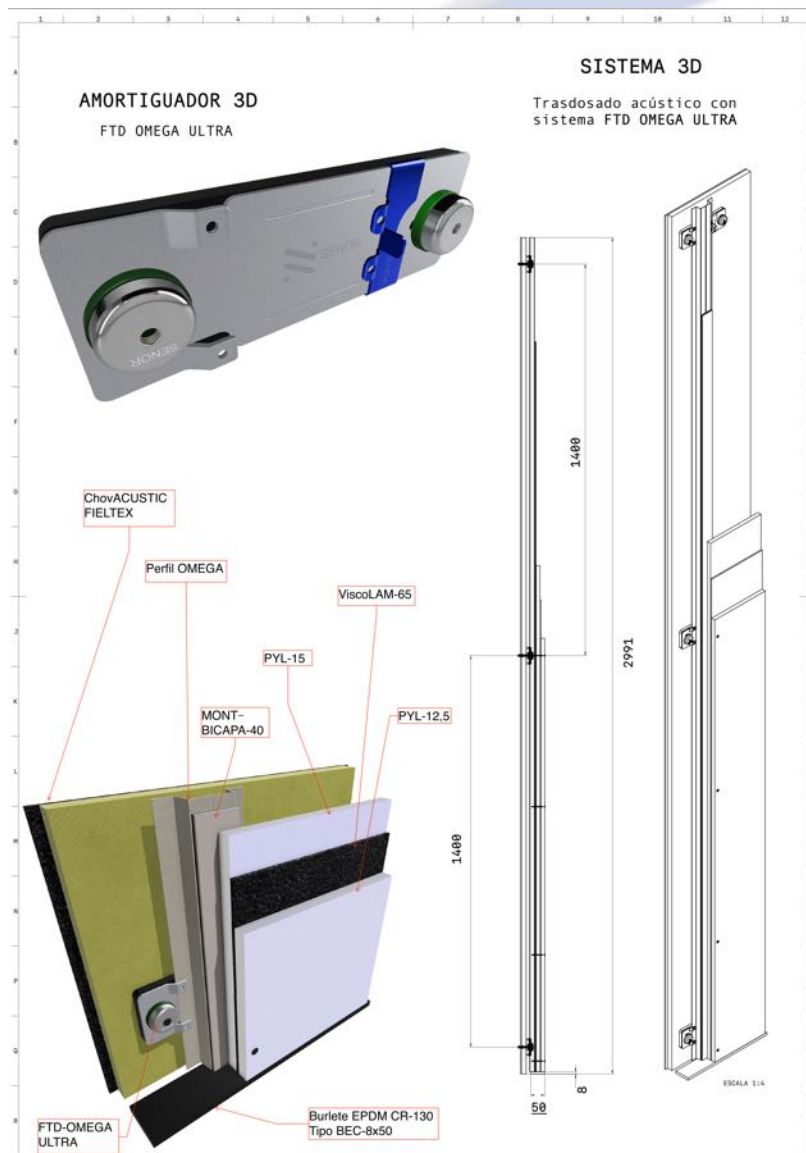
## Summary

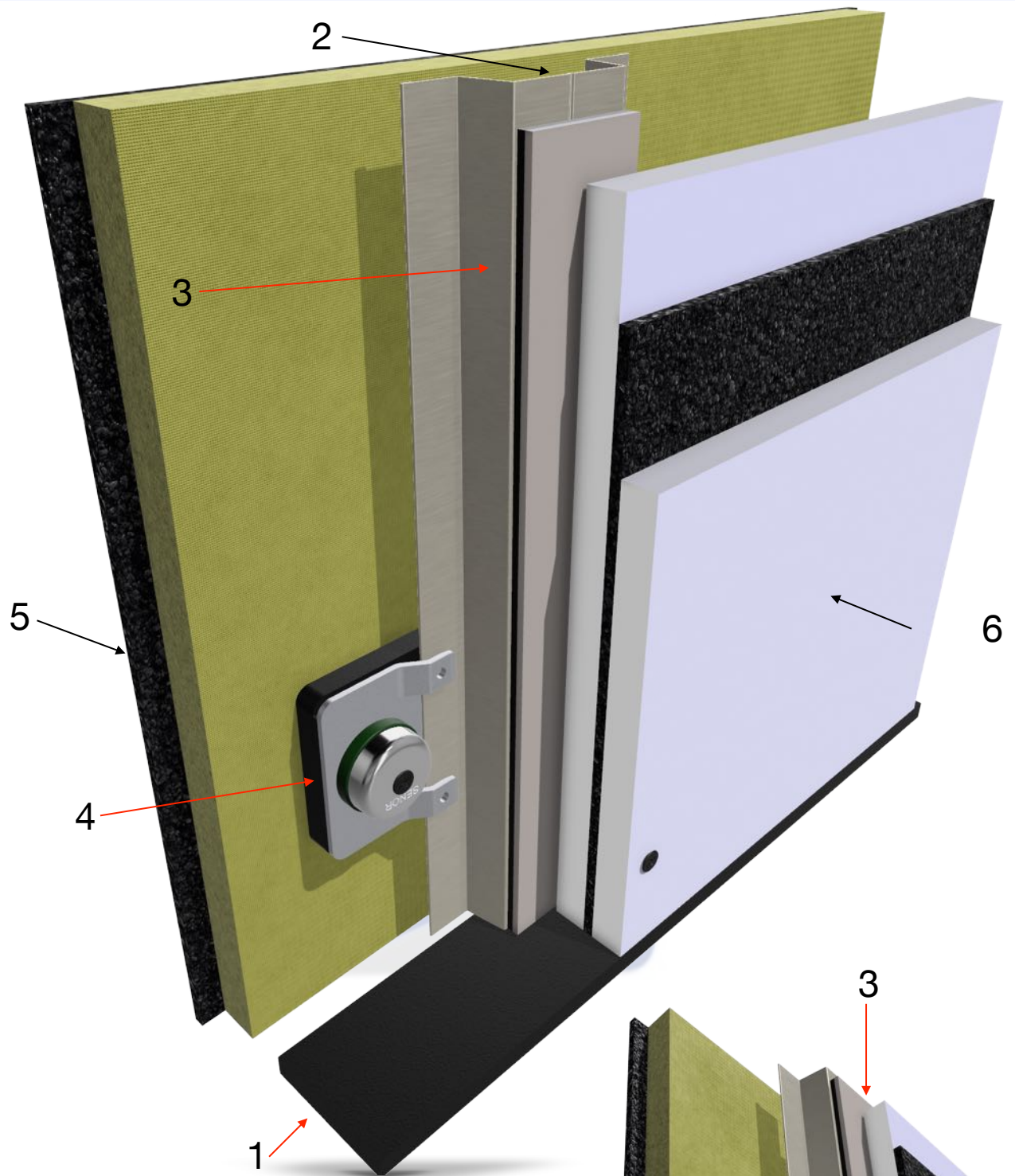
1. [Properties of recommended system](#)
2. [Layout of acoustic mounts](#)
3. [Materials and loads properties](#)
4. [Results](#)
5. [Recommended products](#)
6. [Drawing view](#)
7. [Actual pictures](#)

Noisy room

Side view

# 1. Properties of recommended system





## ACOUSTIC WALL: ROOM

Acoustic band **EPDM CR-130** type **BEC-8\*50** (1).

OMEGA 82/16 channel (2).

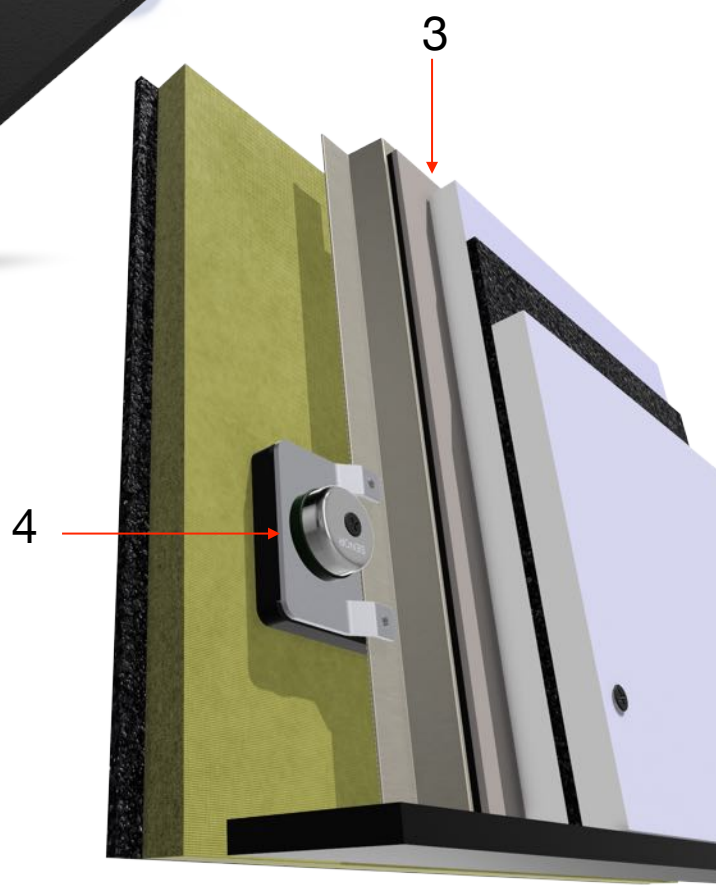
Sheet between drywalls: **BI-CAPA** (3).

Acoustic mount **SENOR Ref. SE-FTD-OMEGA ULTRA** (4).

ChovACUSTIC FIELTEX (5).

System composed of (6):

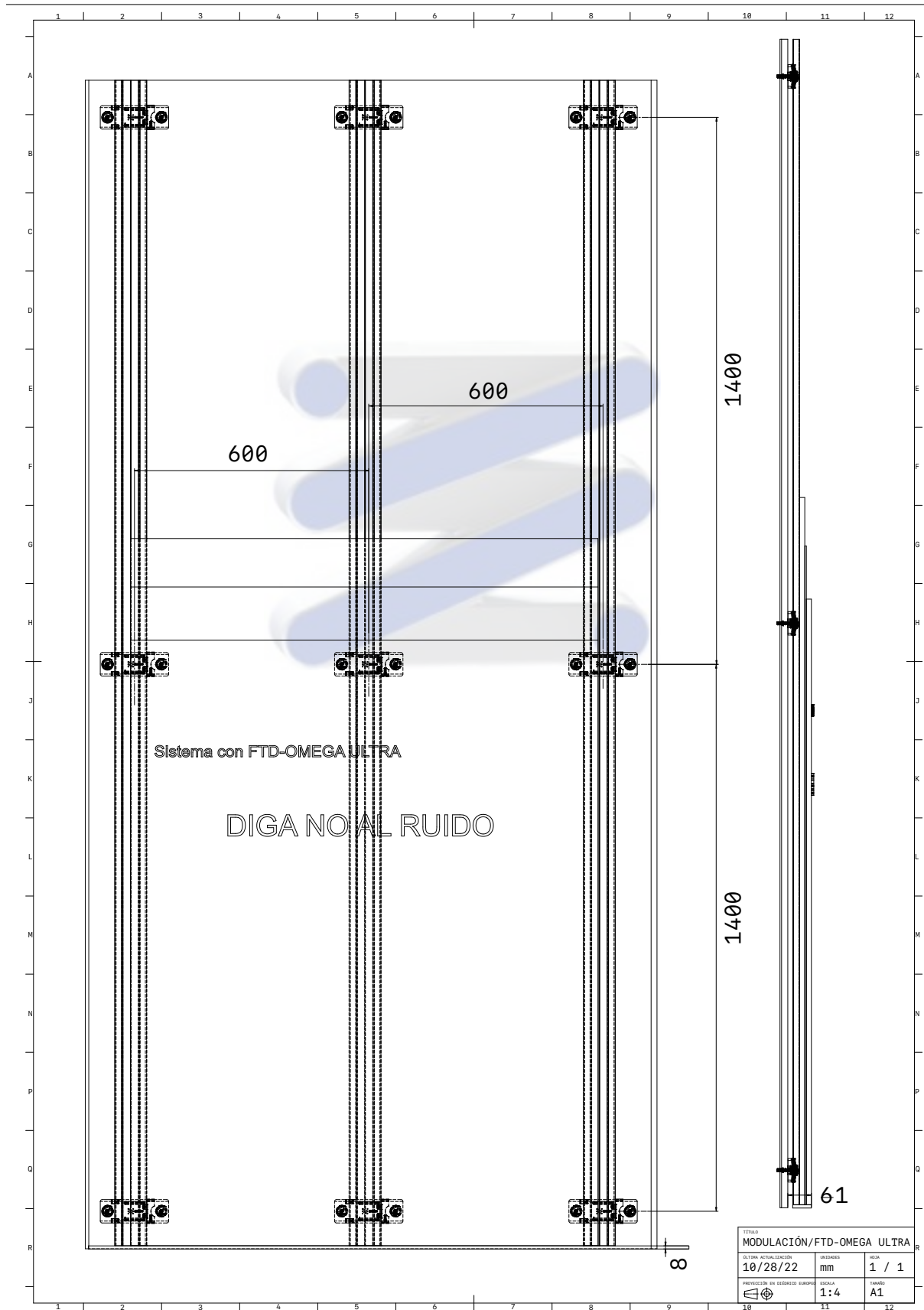
1x DRYWALL PPF 15 mm + 1 x ViscoLAM-65 de 4 mm + 1x DRYWALL PPF 12,5 mm.



## 2. Layout of wall mounts

The layout for **RUBBER** wall mounts is:

### FTD-OMEGA ULTRA



### 3. Material and load properties

Provided that the metal structure is enough rigid, the total load will be spread out evenly on the metal structure. Therefore, every point of the metal structure will bear the same weight.

#### Project summary

**TOTAL AREA M<sup>2</sup>:** 15 m<sup>2</sup>.

**WEIGHT PER M<sup>2</sup>:** 39,3 Kg./m<sup>2</sup>

**TOTAL WEIGHT:** 589,60 Kg.

**MOUNT:** SE-FTD-OMEGA ULTRA + BEC-8\*50

#### MATERIALS AND LOADS

DESCRIPTION	UNIT	VOLUME (m <sup>3</sup> )	MATERIAL DENSITY (Kg. /m <sup>3</sup> )	Kg (m <sup>2</sup> )
ACOUSTIC SYSTEM				
WALL LINING SYSTEM				
OMEGA 82/16	1,66	0,00056	3500	3,3
DRYWALL BA 15	1	0,015	780	11,7
ViscoLAM-65	1	0,004	1650	6,6
DRYWALL BA 12,5	1	0,0125	780	9,75
ChovACUSTIC FIELTEX	1	0,020	-	8

HEIGHT (m)	3,0
------------	-----

WEIGHT M2	39,3
-----------	------

AREA M <sup>2</sup>	15
---------------------	----

WEIGHT OF TOTAL AREA (Kg)	589,6
---------------------------	-------

DISTANCE BETWEEN STUDS	
------------------------	--

MM	DISTANCE (mm)	RESULTS	
		DEFORMATION (mm)	R.FREQUENCY (Hz)
Number of mounts M <sup>2</sup>	1,66	3,75	8,68

TOTAL NUMBER OF MOUNTS	27
------------------------	----

REF.SE-FTD-OMEGA ULTRA	
------------------------	--

STATIC LOAD (Kg)	16,24
------------------	-------

DYNAMIC LOAD (Kg)	18,35
-------------------	-------

SOUNDPROOFING LEVEL %	
-----------------------	--

SWEEP FREQUENCY (Hz)	50	96,89
----------------------	----	-------

# 4. Results

Having analyzed the “material and load” table, the recommended product for this solution delivers excellent results with the applied loads. The hanger reaches a natural frequency of **8,68 Hz** providing a soundproofing level of/above **96,89%**.

**SE-FTD-OMEGA ULTRA** strictly complies with the Standard **UNE 100153:2004 IN (ES)**. Antivibration supports. Design criteria.

## Airborne noise performance

AKUSTIKA ARLOA/AREA DE ACUSTICA  
Eraikuntzaren Kalitate Kontrolerako Laborategia  
Laboratorio de Control de Calidad de la Edificación



EUSKO JAURLARITZA  
GOBIERNO VASCO

AKUSTIKA ARLOA kudeatzailea:  
ÁREA DE ACÚSTICA gestionada por:



AKUSTIKA ARLOA/AREA DE ACUSTICA  
Eraikuntzaren Kalitate Kontrolerako Laborategia  
Laboratorio de Control de Calidad de la Edificación



EUSKO JAURLARITZA  
GOBIERNO VASCO



### Índice de Mejora de reducción acústica de un revestimiento sobre pared base pesada normalizada según UNE-EN ISO 10140-1:2016 Anexo G Medidas en Laboratorio según UNE-EN ISO 10140-2:2011

Solicitante: SUSPENSIONES ELÁSTICAS DEL NORTE, S.L. (SEÑOR)

Nº Resultado: B2020-122-M760 MRA

Fecha Ensayo: 30/10/2020

Muestra: TRASDOSADO DIRECTO ACÚSTICO (SEÑOR + CHOVA): SE-FTD OMEGA; SE-BEC-10X100; SE-MONT-BICAPA-40; SE-BEC-10X100; CHOVANAPA; CHOVA VISCOLAM.

Pared pesada normalizada: Fábrica de bloque de hormigón macizado revestida (300 kg/m<sup>2</sup>), ensayada el 19/10/2020 (R<sub>un</sub>)

Masa superficial estimada: 25 kg/m<sup>2</sup>

Área muestra: 10,08 m<sup>2</sup>

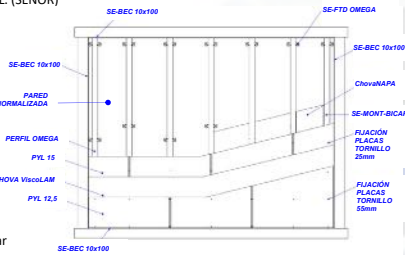
Volumen sala emisora: 66,5 m<sup>3</sup>

Volumen sala receptora: 55,2 m<sup>3</sup>

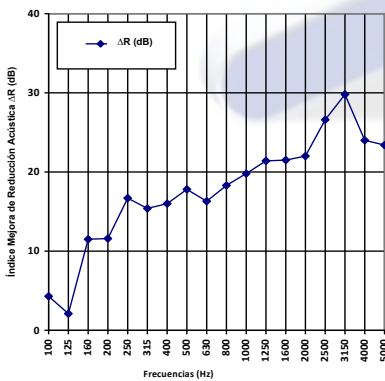
T cámaras: 20,3 °C

HR cámaras: 49 %

P cámaras: 967 mbar



f (Hz)	R <sub>con</sub> (dB)	R <sub>sin</sub> (dB)	ΔR (dB)
100	39,7	35,4	4,3
125	38,1	36,0	2,1
160	46,3	34,8	11,5
200	46,0	34,4	11,6
250	50,9	34,2	16,7
315	53,4	38,0	15,4
400	57,3	41,3	16,0
500	61,0	43,2	17,8
630	62,6	46,3	16,3
800	67,2	48,9	18,3
1000	71,8	52,0	19,8
1250	75,6	54,2	21,4
1600	77,7	56,2	21,5
2000	78,7	56,7	22,0
2500	80,5	53,9	26,6
3150	82,6	52,8	29,8
4000	77,8	53,8	24,0
5000	77,7	54,3	23,4



R <sub>w</sub> (C; C <sub>50</sub> ) <sub>con</sub> : 61(-2;-7) dB	R <sub>w</sub> (C; C <sub>50</sub> ) <sub>sin</sub> : 48(-2;-5) dB
R <sub>A,con</sub> : 60,2 dBA	R <sub>A,sin</sub> : 47,1 dBA
R <sub>A,tr,con</sub> : 53,7 dBA	R <sub>A,tr,sin</sub> : 42,9 dBA

Índices ponderados según UNE-EN ISO 10140-1:2016 Anexo G:  
 ΔR<sub>w,pesado</sub> = 13 dB / Δ(R<sub>w</sub>+C)<sub>pesado</sub> = 12 dBA / Δ(R<sub>w</sub>+C<sub>tr</sub>)<sub>pesado</sub> = 10 dBA  
 Δ(R<sub>w</sub>+C<sub>100-5000</sub>)<sub>pesado</sub> = 12 dBA / Δ(R<sub>w</sub>+C<sub>tr,100-5000</sub>)<sub>pesado</sub> = 10 dBA  
 Evaluación basada en medidas de laboratorio mediante método de ingeniería



### Aislamiento a Ruido Aéreo según UNE-EN ISO 10140-2:2011 Medidas en Laboratorio

Solicitante: SUSPENSIONES ELÁSTICAS DEL NORTE, S.L. (SEÑOR)

Nº Resultado: B2020-122-M760 RA

Fecha Ensayo: 30/10/2020

Muestra: TRASDOSADO DIRECTO ACÚSTICO (SEÑOR + CHOVA): SE-FTD OMEGA; SE-BEC-10X100; SE-MONT-BICAPA-40; SE-BEC-10X100; CHOVANAPA; CHOVA VISCOLAM, SOBRE PARED DE BLOQUE REVESTIDA.

Masa superficial estimada: 325 kg/m<sup>2</sup>

Área muestra: 10,08 m<sup>2</sup>

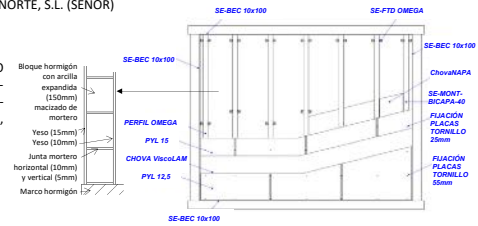
Volumen sala emisora: 66,5 m<sup>3</sup>

Volumen sala receptora: 55,2 m<sup>3</sup>

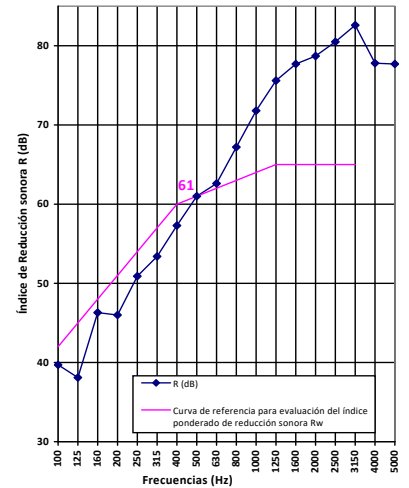
T cámaras: 20,3 °C

HR cámaras: 49 %

P cámaras: 967 mbar



f (Hz)	R (dB)
100	39,7
125	38,1
160	46,3
200	46,0
250	50,9
315	53,4
400	57,3
500	61,0
630	62,6
800	67,2
1000	71,8
1250	75,6
1600	77,7
2000	78,7
2500	80,5
3150	82,6
4000	77,8
5000	77,7



Índices según UNE-EN ISO 717-1:2013: R<sub>w</sub> (C; C<sub>tr</sub>): 61 (-2; -7) dB  
 Índices según CTE DB-HR: R<sub>A</sub>: 60,2 dBA  
 R<sub>A,tr</sub>: 53,7 dBA  
 Evaluación basada en resultados medidos en laboratorio obtenidos mediante un método de ingeniería.



## 5. Recommended products

### QUANTITY:

1°- Acoustic band **EPDM CR-130** type **BEC**.

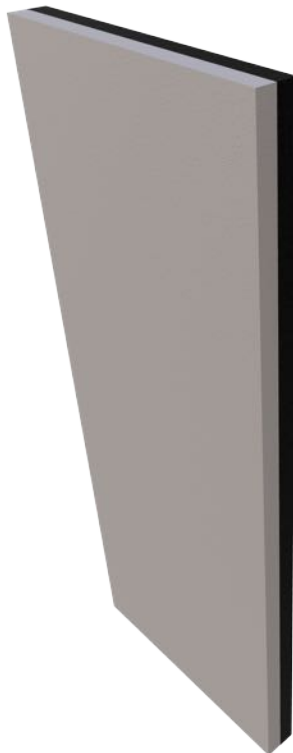
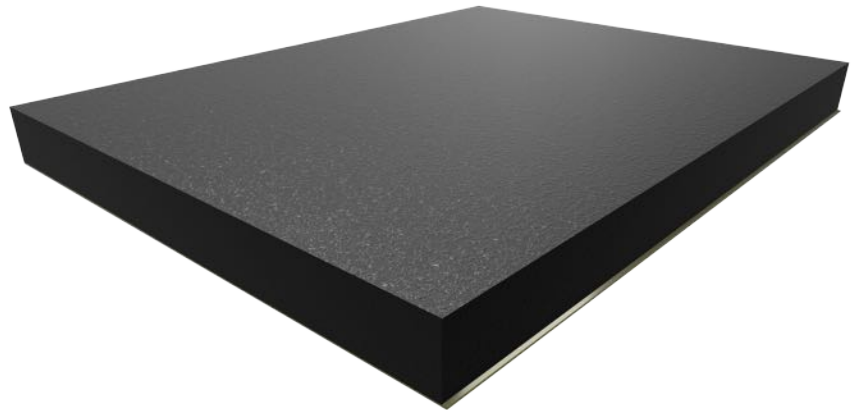
SE-BEC-8x50.

**Roll:** 20 ml.

**Quantity:** 16 lineal meters

**Notice:** Taking into account

5 lineal meters (Length) - Height (3 m).



2°-Sheet **MONT-BICAPA-40** **SEÑOR** to avoid vibrations between the studs and the plasterboards.

Ref. SE-MONT-BICAPA-40

**Roll:** 20 ml.

**QUANTITY:** 27 ml

**Notice:** Taking into account

5 lineal meters (Length) - Height (3 m).

N° of studs **OMEGA 82/16:** 9 units.

3°- Wall mount **SEÑOR**

SE-FTD-OMEGA ULTRA

**Roll:** 40 units.

**Quantity:** 27 units.

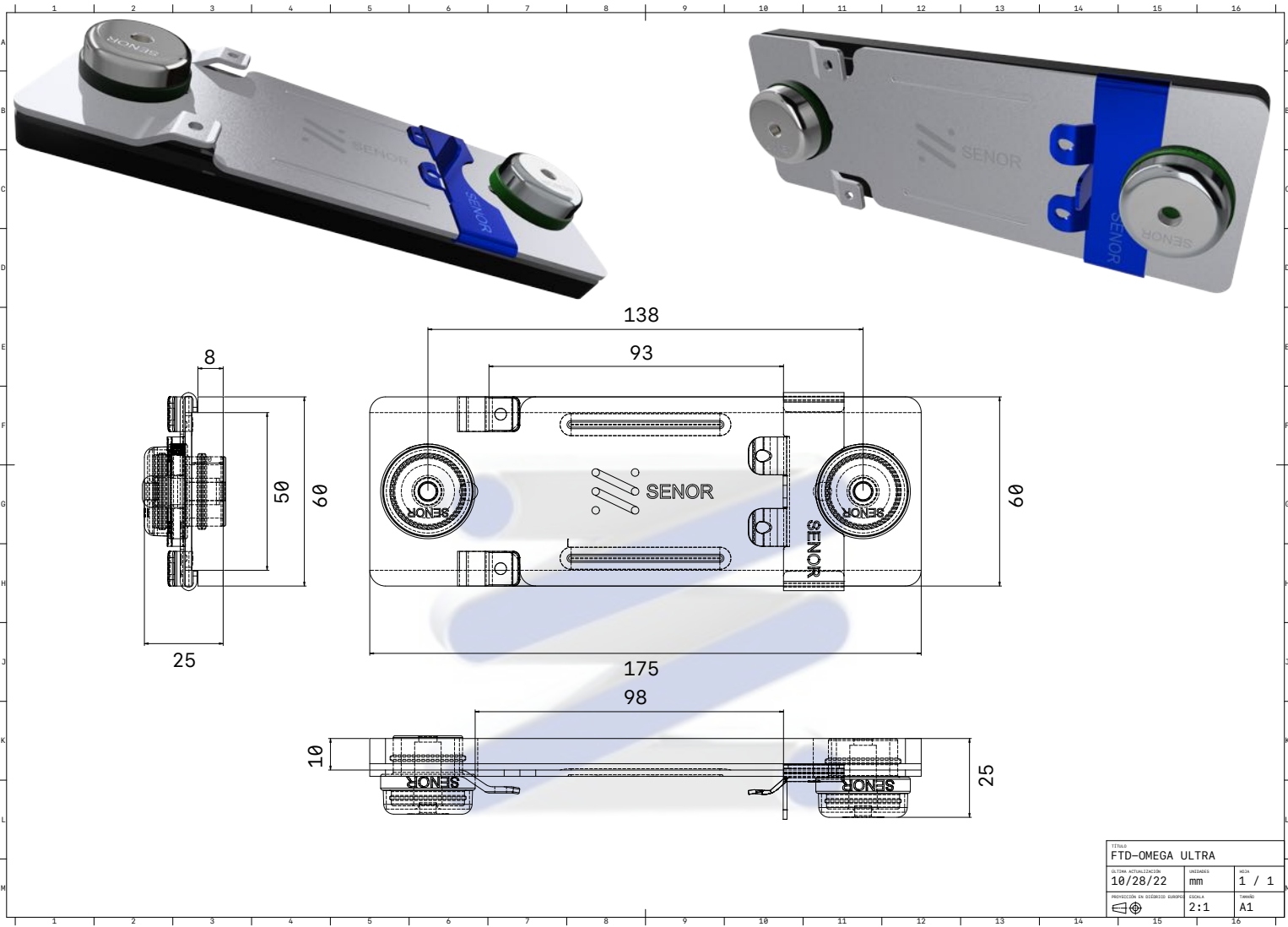
**Notice:** Taking into account

5 lineal meters (Length) - Height (3 m).





## 6. Drawing view



TÍTULO		
FTD-OMEGA ULTRA		
ULTIMA ACTUALIZACIÓN	UNIDADES	HOJA
10/28/22	mm	1 / 1
PROYECCIÓN DE OBJETOS	ESCALA	TABLA
1	2:1	A1

The report hereby does not justify the building solution that is going to be carried out under certain environmental conditions.

SENOR has made its efforts to ensure that the products are useful. However, this is not substitute for good engineering judgement that is the user responsibility.

A qualitative engineering should ensure that results of this estimation are evaluated with designers and analysts experience and pilot test data. The results of this report are considered to be reliable, but they should not be considered as a guarantee of validity.

**PROJECT MANAGER: David Muñoz "SENOR"**

## 7. Actual pictures

