



SOUND BARRIERS

PANACOR ACX160/ALX160

SPECIALLY DESIGNED
TO REDUCE NOISE GENERATED BY RAIL AND ROAD TRAFFIC.

miembro de:

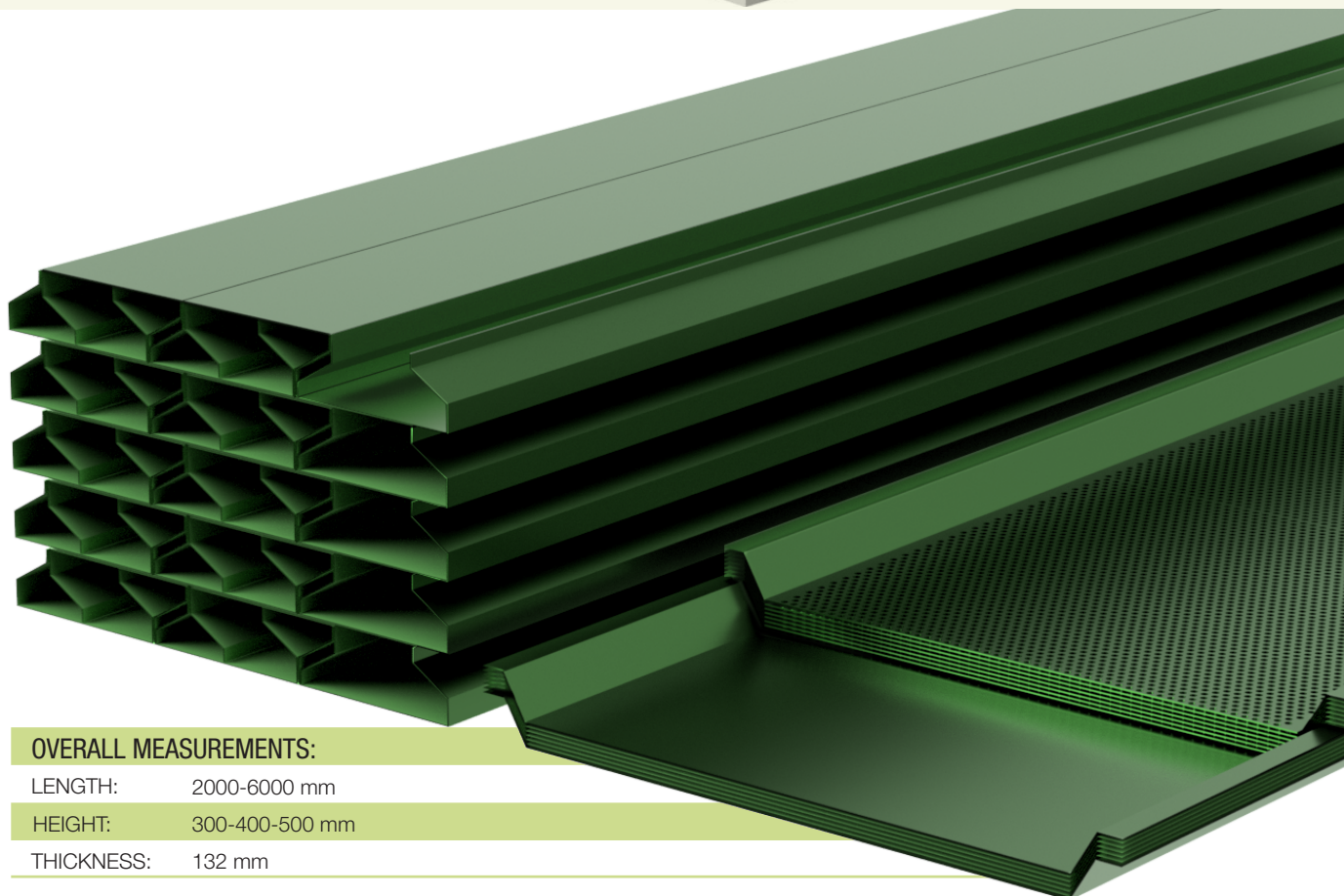
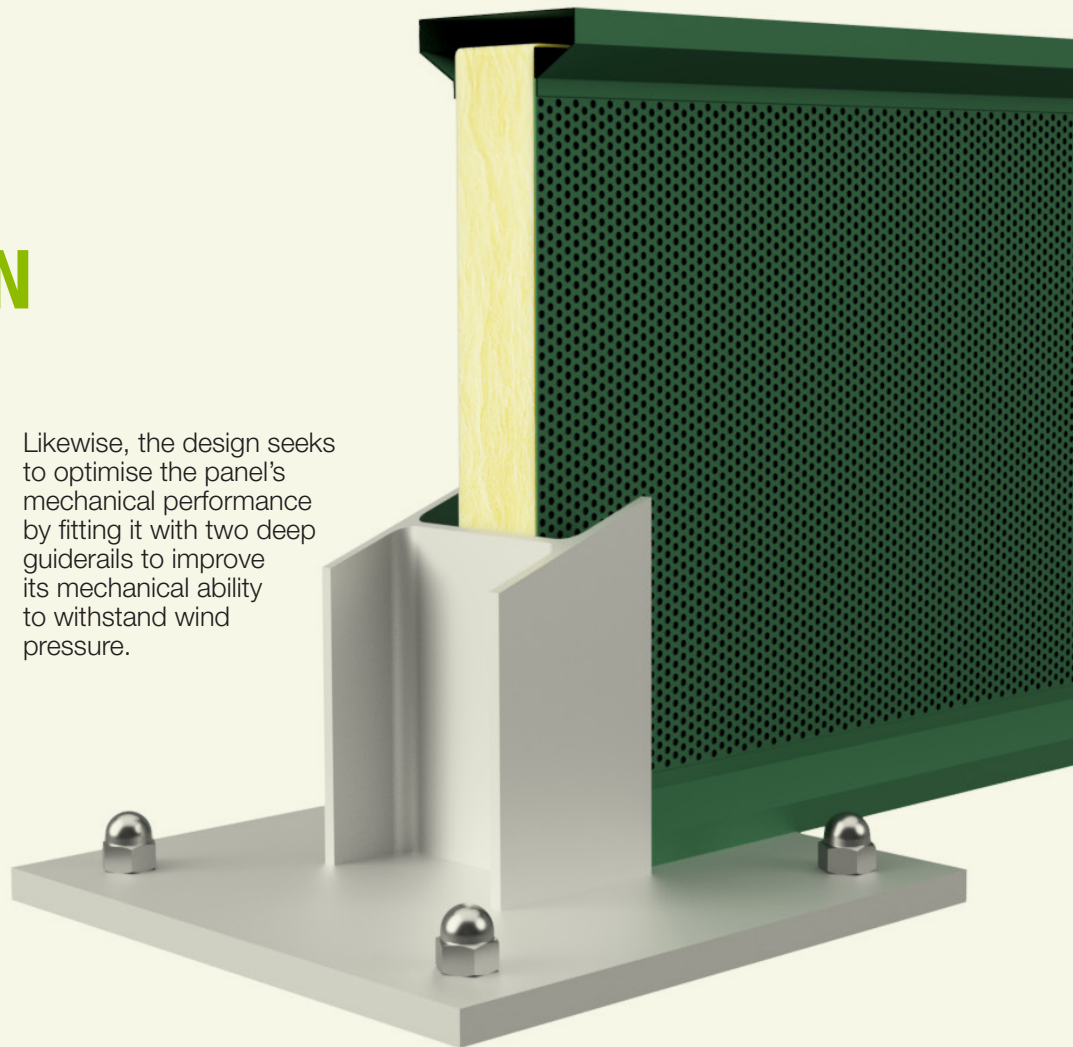


TECHNICAL DESCRIPTION OF PRODUCT

The Panacor ACX160/ALX160 noise barrier is a product specially designed to reduce the noise generated by road and rail traffic.

Its design criteria use the noise signature of road and rail traffic as a reference, subsequently adapting the barrier's noise abatement properties to optimise its overall efficiency.

Likewise, the design seeks to optimise the panel's mechanical performance by fitting it with two deep guiderails to improve its mechanical ability to withstand wind pressure.



OVERALL MEASUREMENTS:

LENGTH: 2000-6000 mm

HEIGHT: 300-400-500 mm

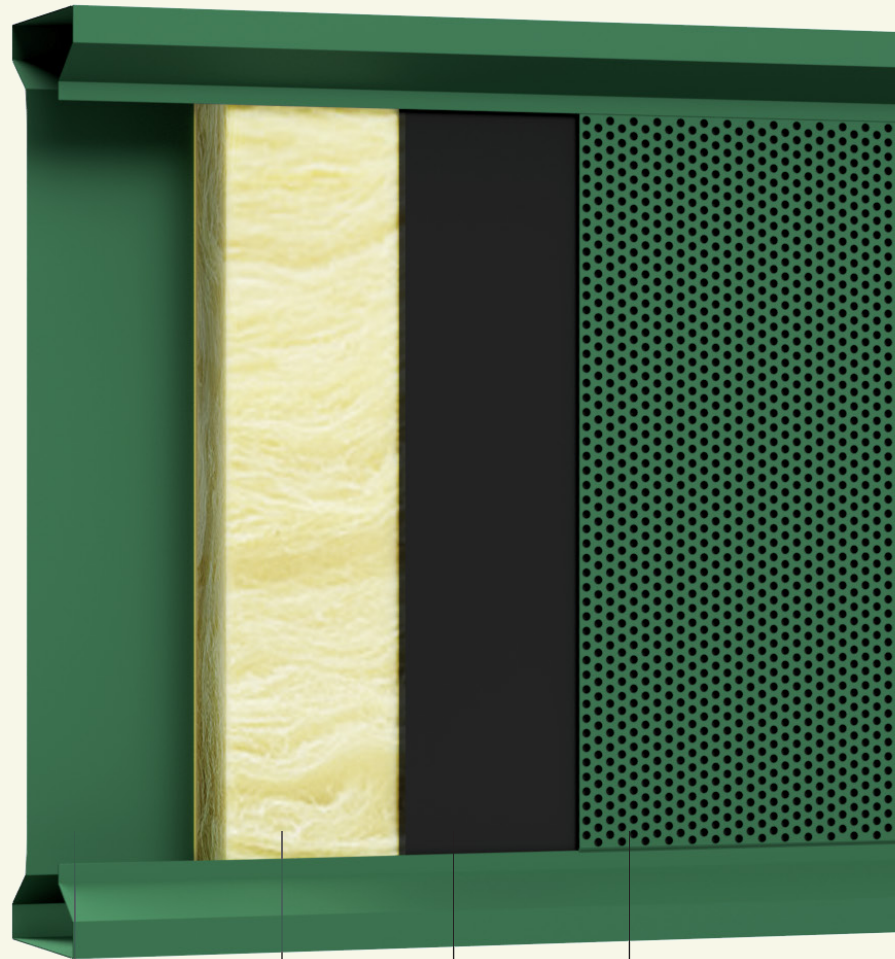
THICKNESS: 132 mm

BARRIER COMPOSITION

The noise barrier can be made of grade DX51D+Z200/275-NA galvanised steel plating in accordance with standard UNE EN 10142, or with AA 3105 H24 aluminium sheet, either of which has a powder coating finish, customised as required in any shade on the RAL colour chart.

The inside of the composite panel is made up of sound-absorbing mineral wool of various densities and thickness depending on the precise noise-abatement properties required.

Thus, panels comprise four metal parts. The inner face (directed at the noise source) has holes over 36% of the surface area to provide for noise absorption, while the outer face is a plain, reflective panel. Barrier panels are installed between vertically arranged HEB/HEA profiles to achieve the desired overall height, in 300, 400 or 500 mm modules, and the distance between posts can be varied.



Reflecting face
made of plain aluminium/steel plate

Mineral wool

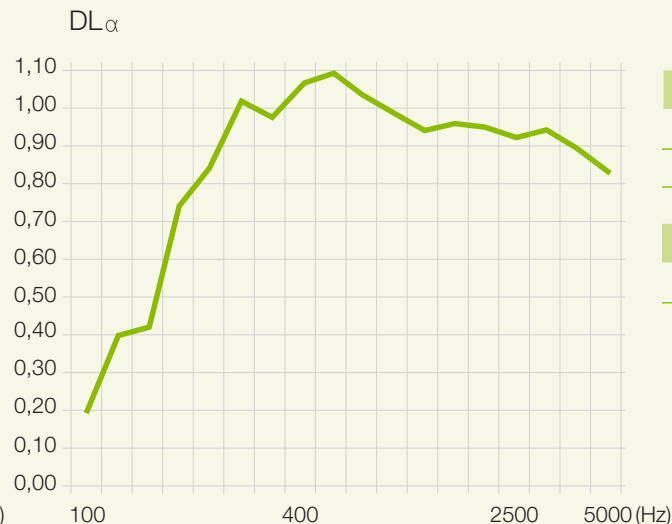
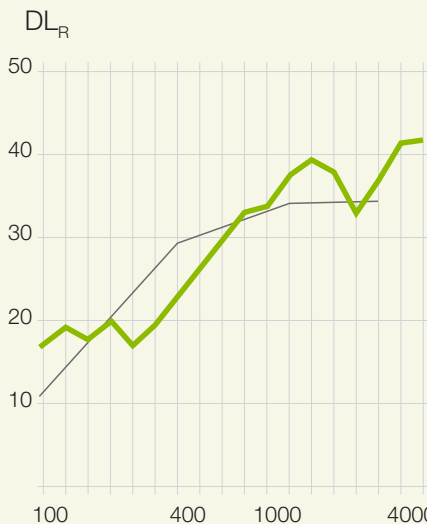
Glass veil

Absorbing face
made of perforated steel/aluminium plate

ACOUSTIC AND MECHANICAL FEATURES

REFERENCE STANDARDS

UNE EN-EN 1794-1:2011; UNE EN-EN 1794-2:2011; UNE EN 1793-1:2014; UNE EN 1793-2:2014



ACOUSTIC PROPERTIES:

B3 class $DL_R = 25$ dB
A5 class $DL_\alpha = 20$ dB

MECHANICAL FEATURES:

Conforms to standard UNE EN1794-1

STRUCTURAL COMPONENTS

The barrier support structure is made up of HEA/HEB metal profiles with a welded baseplate, both grade S275JR according to standard EN 10025. Baseplates and profiles are galvanised and powder coated in accordance with the requirements of standards EN 1461 and EN 15773.

The profile posts are anchored to the foundations by means of anchor bolts of varying diameters, lengths and grades depending on the specific requirements of each individual project.

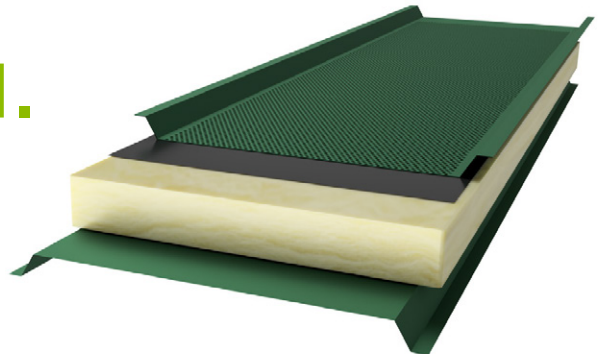


BARRIER ASSEMBLY

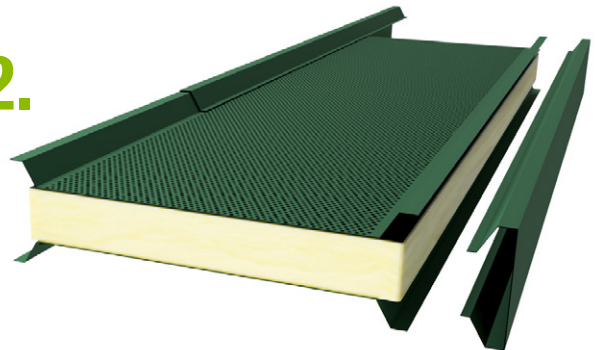
The barrier panel is designed to be mounted without any need for rivets or bolts and thus can easily be installed manually by two people without any need for electricity.

This rivet- and bolt-free solution is highly suited to situations where fatigue problems may appear, for example in hi-speed railway construction projects.

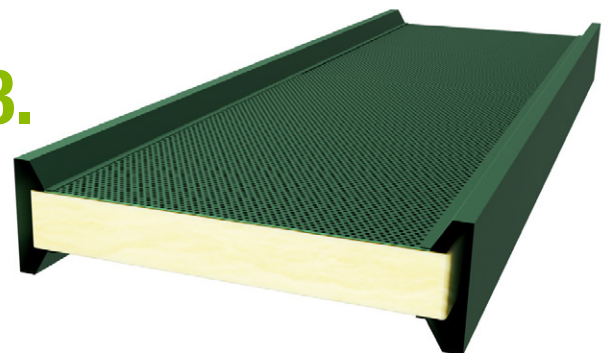
1.



2.



3.



ASSEMBLY STAGES

- 1.** The flat plate is placed on trestles. Then the mineral wool is placed on top of it, followed by the perforated metal sheet.
- 2.** The two end guiderrails then slide onto the composite sandwich.
- 3.** This forms the finished barrier panel.

SURFACE FINISH

Anti-rust treatment. The powder coating treatment that PANACOR ACX160/ALX160 noise barriers are given makes them extraordinarily resistant to adverse weather effects, to heat and deterioration due to exposure to the sun, and provides excellent anti-corrosion properties, all of which makes for an end product that requires practically no maintenance.

**STAGE 1
PRE-TREATMENT**
Automated screen preparation process in which the panels are coated with electrostatic powder paint.

Dip 1
Tank capacity: 5600 l
Bath temperature: 35 to 45°C
Bath fluid components: Degreasing agent, passivator, and water

Daily monitoring of pre-treatment bath liquid concentration levels in tank 1 in accordance with documented specification.

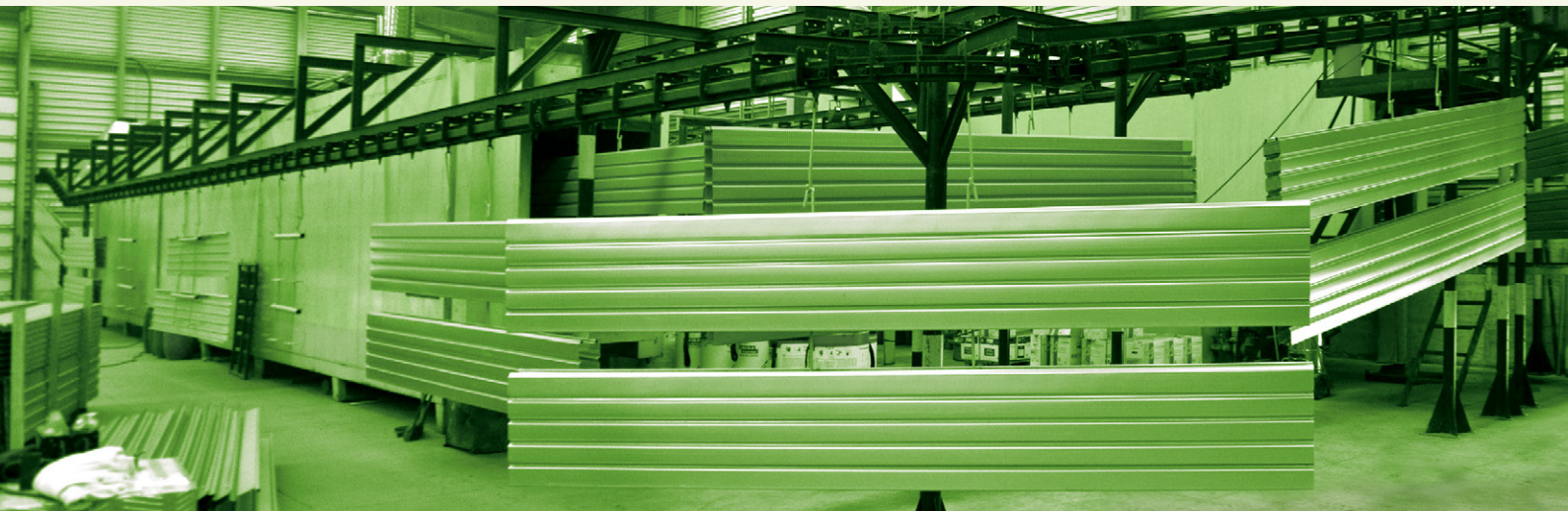
Dip 2
Tank capacity: 2300 l
Bath temperature: ambient
Bath fluid components: water

Dip 3
Tank capacity: 2300 l
Bath temperature: ambient
Bath fluid components: water

**STAGE 2
DRYING**
The metal parts are run through a drying line to eliminate any moisture at an oven temperature of between 80 and 100°C to prepare them for the next powder coating stage.

**STAGE 3
PAINT BOOTH**
Automated process using robots and spray guns that ensure an even and uniform coat of paint is applied to the entire panel to give it an excellent finish.

**STAGE 4
POLYMERISATION KILN**
Topcoat heat painting process for at least 10 minutes at an average temperature of 200°C
Kiln temperature: 165 to 230°C.



QUALITY ASSURANCE CERTIFICATION

CE
Notified Body No. 1302

PANACOR
S.L.

Artículo de los Catálogos nº 38 8º D - 39005 Santander (CANT) - España

UNE - EN 13793-2:2014

“PANACOR ACX160” is a soundproofing and sound absorption panel. It is a soundproofing panel consisting of two perforated aluminium panels bonded in between. The absorption face is a perforated sheet of 2 mm thickness perforated in regular pattern. Absorption panel comes in a mesh with black and blue. The mesh thickness is 10 mm and 15 mm. It is available in a range of colours. Absorption panel comes in a mesh with black and blue. The mesh thickness is 10 mm and 15 mm. It is available in a range of colours. Absorption panel comes in a mesh with black and blue. The mesh thickness is 10 mm and 15 mm. It is available in a range of colours.

Sound absorption (EN 1793-2): 0.10 (0.0) - 0.13 (0.0) (dB)

Acoustic sound insulation (EN 1793-2): 0.1 (0.0) (dB)

Dry, reduced and wet weight of an acoustic element (EN 1793-2 A1): 28.8 kg/m² (dry) / 34.2 kg/m² (wet) / 14 kg/m² (wet)

Resistance to loads (depth = 3 mm): 115.4 kg/m² (dry) / 138.1 kg/m² (wet)

Maximum normal design load (DPL) at ultimate limit state (EN 1793-2 A2): 1.87 kN (dry) / 2.25 kN (wet)

Minimum normal design load (DPL) at ultimate limit state (EN 1793-2 A3): 0.93 kN (dry) / 1.12 kN (wet)

Impact of stones (EN 1793-2 A4): satisfactory

Risk of falling debris (EN 1793-2 A5): Class 3

Resistance to fire (EN 1793-2 A6): Class 4

Environmental performance (EN 1793-2 A7): 100 % Recycled

Light reflectivity (EN 1793-2 A8): 70%

Declared Availability:
Local availability: 0.04
Value at the end of working life: 19.68

Declared working lifetime in years as a function of environmental classes exposure: 19.68

Declared Availability:
Local availability: 0.04
Value at the end of working life: 27.68

Declared working lifetime in years as a function of environmental classes exposure: 27.68

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Local availability: 0.04
Value at the end of working life: 27.68

Declared working lifetime in years as a function of environmental classes exposure: 27.68

Divisiones: Madrid, S.L. Nº 0338

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Applus+
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11 de febrero de 2015

Número de informe: 15/1512-3179

Peticionario ensayo: PANACOR 3000, S.L.

Artículo de los Catálogos nº 38, 8º D
39005 Santander (Cantabria)

INFORME DE ENSAYO

Ensayo solicitado: Medición de la absorción acústica en cámara reverberante según norma UNE-EN 1793-2:2014 de una muestra de pantalla vertical antivibración referenciada como PANACOR ALX160 por paneles de chapa de aluminio y lana de roca

Fecha del ensayo: 24 de diciembre de 2015

Ensayo realizado por: Xavier Rovilla (Lab. de Acústica - LSG Technological Center)

Xavier Rovilla
Responsable Técnico de Acústica
LSC Technological Center S.A.

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LAB. Tecnología Control, S.A. inscrita en el Registro Mercantil de Madrid, Tomo 6086, Folio 3, Libro 1 de 2007 Inscripción 1ª de 2007

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Informe Nº: 057100-01 (M1)

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Fecha de finalización: 20/01/2016
Fecha de emisión: 04/02/2016
Fecha de modificación: 17/02/2016
Página: 1 de 3

Cliente: PANACOR XXI, S.L.
Dirección: Av. de Los Castros, 38, 8º D
39005 Santander

Referencia: Panel acústico ref.: ALX160

Características: Panel de aluminio de 4070x100x133 mm

Norma: UNE-EN 1794-1:2011

Ion Oñiza
Responsable Técnico
Certificación Servicios

LAB. TECNOLÓGICO CONTROL S.A. inscrita en el Registro Mercantil de Madrid, Tomo 6086, Folio 3, Libro 1 de 2007 Inscripción 1ª de 2007

EUSKO JAURLARITZA **GOBIERNO VASCO**

EMPRESA ETA SEBASTE
POLYMERIZADO S.A.
Euzkadi, Cantabria
Euzkadiaren Katalun Karrobarreko Laborategia

DEPARTAMENTO DE EMPLEO Y POLÍTICA SOCIAL
Laboratorio de Cantabria de Control de la Edificación

Medidas de aislamiento acústico en laboratorio

tecnalia

MUESTRA DE ENSAYO: Pantalla anti-ruido de paneles sándwich de acero galvanizado y lana de roca. Ref.: PANACOR ACX160.

SOLICITANTE: PANACOR 3000, S.L.
Avda. de los Castros nº 38 8º D
39005 Santander.

NORMA APLICADA: UNE-EN 1793-2:2014.

FECHA DE ENSAYO: 3 de julio de 2015.

FECHA DE EMISIÓN DE INFORME: 27 de julio de 2015.

Firma

Susana Lopez de Aranzaga
Técnico Superior Laboratorio Acústica

La idoneidad técnica de la acreditación ENAC Nº145455 corresponde a la Fundación Tecnalia Research & Innovation, así como a Euzkadi S.A. de Cantabria.

Los resultados en los que se opone la empresa bajo acreditación ENAC Nº145455 pertenecen al Área de Acústica del Laboratorio de Control de Calidad de la Edificación de Cantabria (Lab. de Acústica).

Laboratorio autorizado Nº 03 para ensayos relativos de "Diagnóstico de reducción del ruido en interiores".

EL PRESENTE INFORME CONSTA DE:
1º) Total de páginas: 11 (+1 Anexo).

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El objeto de ensayo ha sido sometido a los posibles riesgos por el solicitante, reflejados en los procedimientos internos para la muestra ensayada.

Los resultados de los ensayos se reflejan en las páginas interiores. Los resultados de los ensayos están a disposición del solicitante.

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Pág. 1 de 11 (+1 Anexo)



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