carlos natal
revestimentos para mobiliário

Technical Data Sheet

PET ACOUSTIC PANEL

Description

Pet Acoustic Panels are extremely resistant, light and soft to the touch. Composition consists on 100% PET fibres, of which 60% are recycled (produced from plastic bottles). The panels are 100% recyclabe and fire retardant.

Therefore, this is an item manufactured from waste, aiming for a sustainable future.

Applications include walls, ceilings, workplace dividers and all kind of personalised acoustic solutions.
It is the best option for your eyes, ears and the environment.

Applications

Each space is unique, as well as it's needs in terms of style, color and acoustic properties. This means that PET Acoustic Panels cannot be a "one size fits all" solution. They are completely customizable to meet all specific requirements. This is what makes PET Panels so attractive – they can be edited, folded and colored as requested by the customer.

PET Acoustic Panels were therefore designed to be easily adjustable while keeping their high performance sound proof properties in each and every space.

Technical Specifications

- **Composition:** 100% PET polyester (60% recycled PET fiber + 40% virgin PET fiber)
- **Size:** 2440 mm x 1220 mm (± 2 mm x 2 mm)
- **Fire proof certifications:**
  - ASTM E84 CLASS A
  - EN 13501 CLASS B-s1,d0
- **Environmental Certifications:** OEKO-TEX® STANDARD 100 (tested for harmful substances)
- **MSDS:** Material Safety Data Sheet (annex)
- **Technical data:**

Thickness (mm, ±5%)	9	12
Size (mm, ± 2mm)	2440 × 1220	2440 × 1220
Weight (kg/plate)	5.65	7.14
Density (kg/m^2)	1.9	2.4

Features

- Free from formaldehydes
- Free from chemical irritants
- 60% recycled / 100% recyclable
- Easy maintenance: resistant to dirt and dust
- Free from odors
- Resistant to impact
- Easy to handle
- Thermic isolation

Environment

PET Acoustic Panels are produced out of 60% recycled polyester fibers (obtained from PET bottles). Waste and residue generated from this production process are also reused or recycled whenever possible.
The panels are tested for the presence of harmful substances and do not contain formaldehyde binders. Polyester fibers also allow for a cleaner interior environment and will not become air polluters.
Fire retardant properties are permanent and inherent to the FR fibers. The panels do NOT undergo any chemical FR treatment.

Deterioration and Humidity

PET Panels are extremely durable as well as easy to clean and maintain, so no specific care is needed.
As they do not contain any organic compounds, there is no deterioration over time.
The panels also have a very low humidity absorption so there is also no mold formation.

Surface pattern

Non-woven. Panels do not have any pattern or direction.
There may be a small thickness, mesh and color variation, as well as superficial spots, which are inevitable and inherent to PET fibers.
Batch to batch color variation may occur due to different color mixture and origin of the recycled fibers during different productions.

Acoustic Performance

The following table features Noise Reduction Coefficient (NRC) of the PET Acoustic Panels according to standard ISO 354:2003 in reverberation room.

Thickness (mm)	12
NRC (single layer PET Panel)	0.4
NRC (air cavity 200mm)	0.7

Test Method: ISO 354:2003

According to ISO 11654:1997, PET Acoustic Panels features the following Weighted Acoustic Absorption Coefficient (α_w):

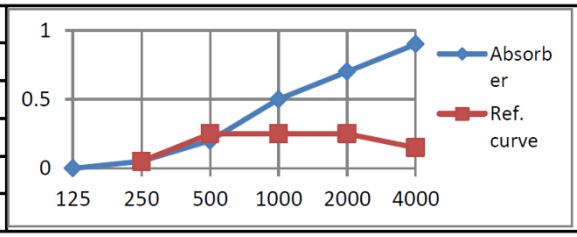
Thickness (mm)	12
α_w	0.25

Test Method: ISO 11654:1997

Graphic description of α_w in reverberation room:

Rating according to ISO 11654: 1997
Weighted sound absorption coefficient, αw= 0.25 (MH)

F (Hz)	αp
250	0.05
500	0.20
1000	0.50
2000	0.70
4000	0.90



Test Method: ISO 11654:1997

Please note the noise decrease in reverberation room, shown by comparison between reference values (Ref. curve) and test values by using a single layer of PET Acoustic Panel (Absorber curve), with special highlight to medium and high frquencies.

Test Setup: ISO 354:2003 and ISO 11654:1997

The following table features the applied sound absorption coefficients, according to standard ISO 354:2003.

Frequency (Hz)	125	250	500	1000	2000	4000
αs (12 mm)	0.00	0.05	0.22	0.49	0.71	0.94

The following graph represents the third octave from sound absorptions coefficients (according to sound absorption measurements, ISO 354:2003 in reverberation room).

Test Method: ISO 354: 2003 Sound Absorption Coefficients

Volume of the reverberation room	Vs, m^3	240	Installation Type:	Type A
Room temperature	t1, ºC	20	t2, ºC	20
Relative humidity of test rooms	H1,%	50	H2,%	50

Sample size (width*length),mm	600×1219	thickness, mm	12
Edge treatment	/	Mass, kg/m^2	1.67
Test Area, m^2	11.0		

Frequency (Hz)	αs
100	0.01
125	0.00
160	0.01
200	0.03
250	0.05
315	0.10
400	0.14
500	0.22
630	0.28
800	0.41
1000	0.49
1250	0.57
1600	0.65
2000	0.71
2500	0.81
3150	0.85
4000	0.94
5000	0.95