



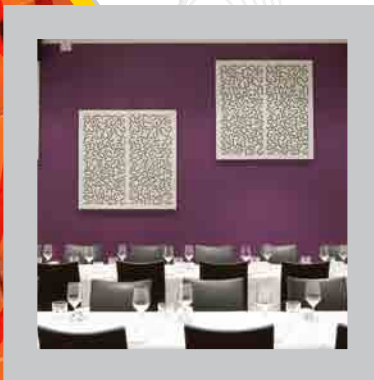
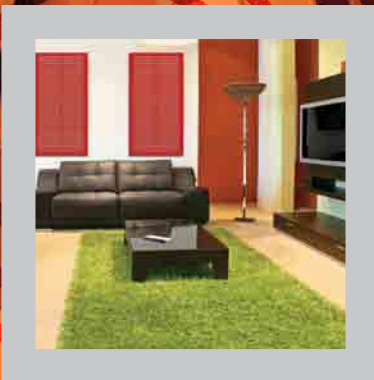
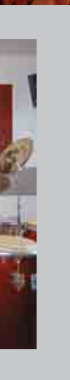
# ECHOSHUSH<sup>®</sup>

) ) ) ) ) )

## cosmo

room acoustic panels

))) ))) **SOUND CONTROL**  
Acoustic Engineers



solutions  
for better  
living

**Pyrotek**  
noise control



## solutions for better living

This brochure covers the principles, design considerations and installation methods for controlling reverberation noise within buildings using Echohush Cosmo.

Cosmo panels combine acoustics and aesthetics, maximising noise energy absorption, improving acoustics in rooms and enclosed spaces while providing strong visual qualities to suit any decor. Echohush products improve audio and voice clarity in highly reflective areas.

## noise problem defined

Reverberation (echo) occurs when reflected noise energy is not controlled. It takes place in areas where there are multiple non-absorbent hard surfaces, e.g., concrete slabs, plasterboard walls and ceilings, tiled floors etc. Highly reverberant rooms are at risk from what is known as the 'cafe effect'. As noise levels within a room rise, people speak louder to make themselves heard - a process that continually escalates the noise to an intolerable level.

To control reverberation noise or 'echo' within a room, the internal walls must be lined with an absorbent material to absorb the energy and therefore reduce the overall noise level.

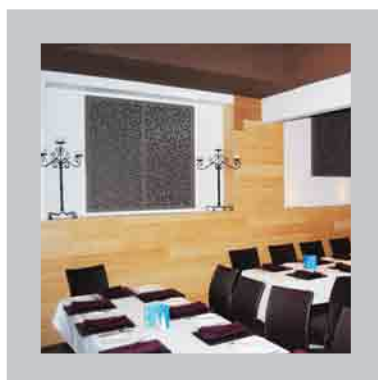
## solution/application

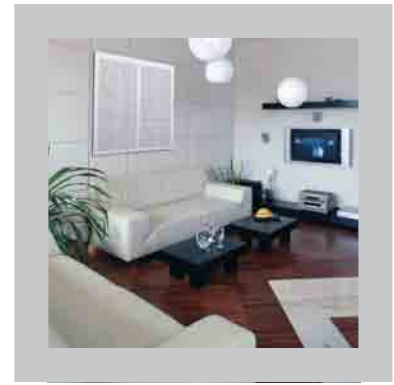
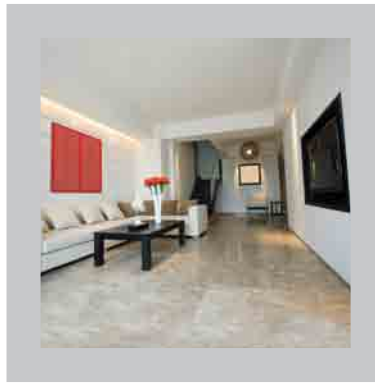
The decorative Cosmo panels are beneficial in many situations, including schools, bars, restaurants and call centres, to studios, showrooms and (home and commercial) theatres - anywhere you need greater privacy, improved acoustics or enhanced speech intelligibility. Echohush Cosmo enhances the quality of home entertainment and surround sound systems, by reducing conflicting echoes to create a neutral environment for clear audio reproduction.

Echohush Cosmo panels can be incorporated during the design process or retrofitted once construction is complete, as they provide an excellent option to resolve reverberation problems at any stage of a building fit-out.

Echohush Cosmo:

- Improves acoustics in enclosed spaces by absorbing noise energy, creating an improved environment for communication, while providing strong aesthetic possibility
- Efficiently absorbs reflected noise energy
- Resistant to intentional damage
- Cost effective and efficient
- Easy to install - no specialist tools required
- Available in six designs to suit individual applications
- DIY revolution - our unique picture frame design with installation incorporated, is as simple to install as hanging a picture (see install page 5)





## Echohush Cosmo for home entertainment

What makes your home entertainment room a complete experience?

Is it the visual display? An expensive sound system? Luxurious seating? Mood lighting?

Ask most people and they'll mention these elements, but what about the room and its acoustics? The best equipment in the world will not provide the best outcome unless the room's acoustics support your listening experience.

Regrettably, where sound quality is concerned, the acoustics of the listening room are seldom taken into account. In reality, most people choose expensive, top of the range audio systems in an attempt to achieve the best-possible sound. However they often overlook one fundamental element, which is the acoustics of the listening room itself. The acoustical conditions of that room will inevitably take control over the sound quality.

Acoustical improvement is one of the most efficient and economical ways to increase the performance of a sound system, as all the various listening parameters can be improved in a considerable way. For DIY, it's possible to treat a room with affordable Echohush Cosmo panels whose acoustic properties will improve audio quality, reduce reverberated sound, assist in controlling background reflections and improve speech intelligibility.

To establish the requirements for your room, consider the wall surfaces to which you can fix panels. The basic minimum treatment should be to the wall behind the listener or facing the speakers. Side walls can also be treated to reduce side reflections.

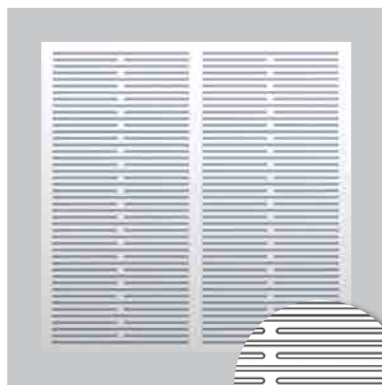
## how many panels do I need?

By utilising Echohush Cosmo on hard surfaces the problem of conflicting reflections can be easily controlled as demonstrated in our example room below, where as few as three panels have resolved the problem.

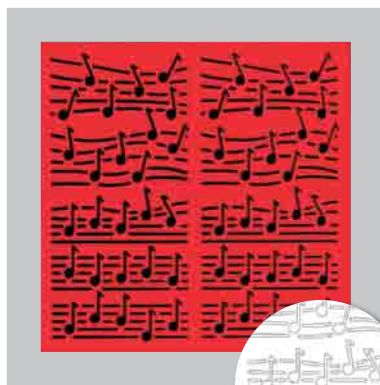
For a quick guide: a typical home theatre may require as few as 3 - 4 panels.



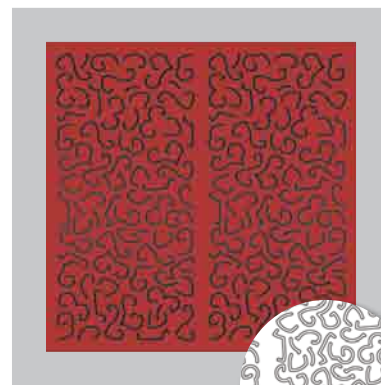




Classic



Jazz



Picasso



## product construction

Available in six standard designs and nine stock colours, or depending on project size, to designer's choice. Echohush Cosmo panels are manufactured from sheet metal and unlike timber or fabric panels, they contain no chemicals that may out-gas, and are not affected by moisture.

The sheet is made acoustically transparent by decorative cut-outs and is then formed into a three-dimensional panel, and powder coated to your colour choice. The three-dimensional shape creates a cavity that is filled with an acoustic medium giving the panels outstanding acoustic performance.

## properties

Product details	Zincaneal metal, powder coated finish
Standard panel size (stocked)	1000mm x 1000mm
Other panel sizes (MOQ may apply)	625mm x 1200mm
	1200mm x 1200mm
	Custom sizes for special projects
Total thickness	50mm
Product weight	8 - 9kg/m <sup>2</sup>

## designs available

Classic, Jazz, Kaleidoscope, Pacifica, Picasso, Techno and custom designs for special projects.

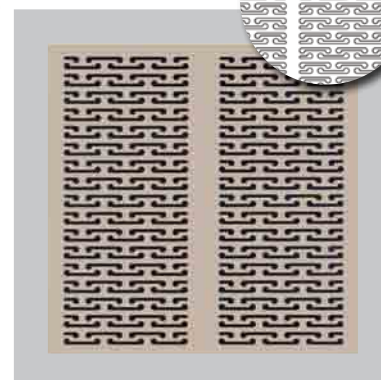
Techno



Kaleidoscope



Pacifica





## standard colours



Shoji White  
Satin



Stone Grey  
Satin



Bronze Olive  
Matt



Riversand  
Matt



Bushland  
Matt



Manor Red  
Matt



Jasper  
Satin



Blue Ridge  
Satin

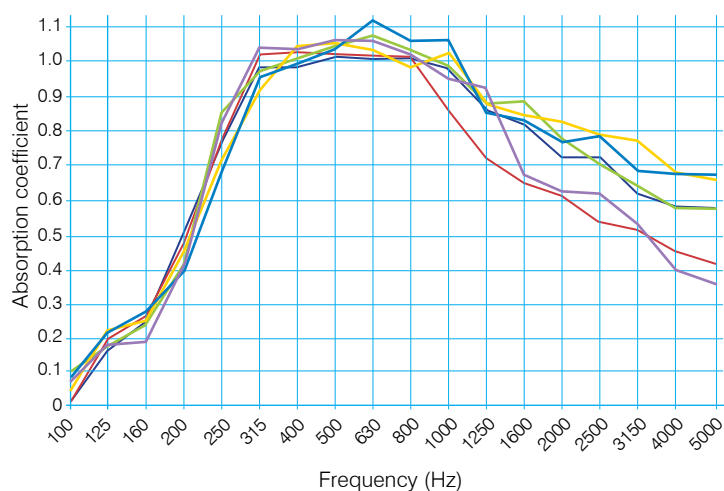


Flame Red  
Gloss

## acoustic performance

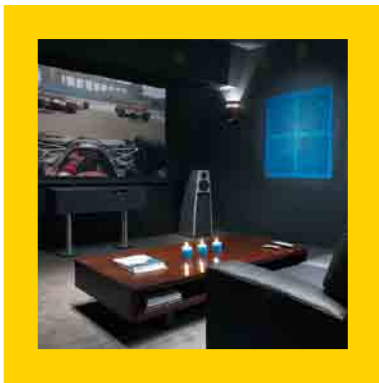
The data represented shows the performance of a 48kg/m<sup>3</sup> fibreglass infill and panel facing, which are designed to minimise the effect of surface reflections. This is achieved by ensuring the total surface openings remain above a minimum percentage of the whole panel.

Product name	NRC
Classic	50mm 0.90
Jazz	50mm 0.85
Kaleidoscope	50mm 0.90
Pacifica	50mm 0.90
Picasso	50mm 0.85
Techno	50mm 0.90



Hz	Absorption coefficient					
	Jazz	Kaleidoscope	Pacifica	Techno	Classic	Picasso
100	0.06	0.06	0.10	0.03	0.08	0.07
125	0.20	0.18	0.18	0.22	0.21	0.17
160	0.25	0.26	0.24	0.25	0.27	0.19
200	0.48	0.52	0.41	0.45	0.40	0.43
250	0.78	0.79	0.85	0.71	0.68	0.82
315	1.05	0.98	0.98	0.92	0.96	1.04
400	1.08	0.97	1.04	1.03	0.99	1.03
500	1.06	1.02	1.06	1.03	1.04	1.05
630	1.06	1.10	1.08	1.11	1.13	1.06
800	1.04	1.03	1.03	0.98	1.05	0.91
1000	0.85	0.97	0.97	1.03	1.05	0.86
1250	0.73	0.86	0.88	0.89	0.86	0.84
1600	0.67	0.83	0.89	0.84	0.84	0.67
2000	0.62	0.73	0.77	0.83	0.77	0.64
2500	0.55	0.73	0.70	0.79	0.79	0.64
3150	0.52	0.61	0.65	0.77	0.67	0.53
4000	0.47	0.59	0.58	0.68	0.66	0.40
5000	0.43	0.58	0.58	0.65	0.66	0.36

Test data is for Cosmo standard designs in MDF finish.



## durability

Echohush Cosmo has excellent durability and should last the life of the building or application, provided the material is used for its designed purpose, and installed and maintained according to the specification provided by the manufacturer.

## specification guide

The noise insulation provided shall be "Echohush Cosmo Panels" made from powder coated laser cut metal. The cavity infill shall be Sorberpoly 2D black, Sorberfoam 50mm PU black facing or Sorberglass black facing (for improved fire ratings).

## installation

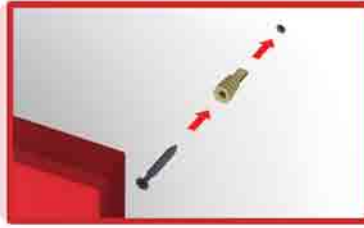
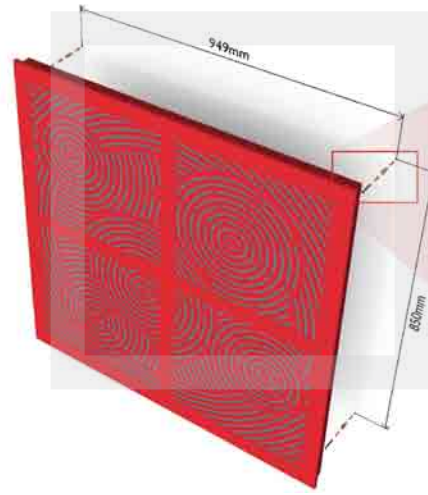
Echohush Cosmo is simple and easy to install, hung like a picture on the wall. The recommended number of wall fittings need to be installed to manufacturer's specifications and each must be capable of supporting 5kg or greater.



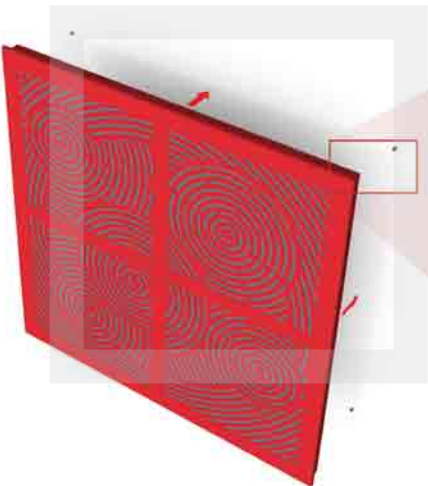
The panel has its own pre-folded boxed frame with fixing positions pre-cut into the frame making installation simple and easy.



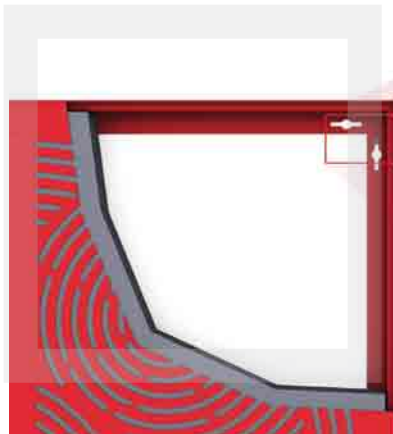
Echohush Cosmo panels are installed using a keyhole lock system cut into the frame of the panel. A level should be used to establish fixing position with measurement for wall mounts as shown on the diagram. The fixing positions are located as shown. The panel can be turned 90°, and the same measurements will apply.



Echohush Cosmo panels can be fitted to plasterboard or masonry surfaces. When fixing to plasterboard, use a wall mount as shown, rated to >5kg. If fixing to concrete, use a >5kg masonry anchor. Four fixing points are recommended.



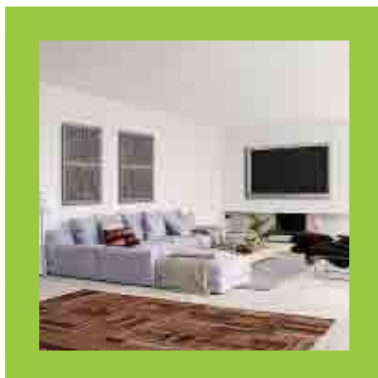
With the correct locations measured and wall mount fixed, leave the screw head 5mm out from the wall as shown.



Position the panel on to the screws in the centre of the keyhole and move the panels so that the screws sit in the narrow part of the keyhole as shown.



Finished fitting is hidden, safe and secure.



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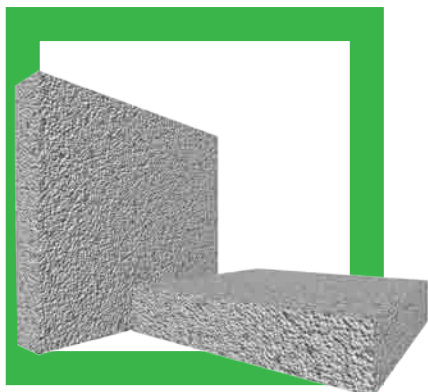
**REAPCOR<sup>®</sup>**  
sound absorber for challenging environments

 **SOUND CONTROL**  
*Acoustic Engineers*



sound absorber  
for challenging  
environments

**Pyrotek**  
noise control



## the sound absorber for challenging environments

Reapor was developed to maximise noise energy absorption. Reapor resolves issues of fire, weather aging and contamination damage. Constructed from recycled material, easily maintained and VOC free, Reapor panels are easily fixed and worked.

## applications

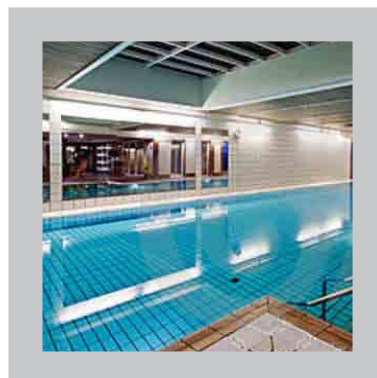
Reapor is designed for applications where both sound absorption and a high level of fire resistance is required.

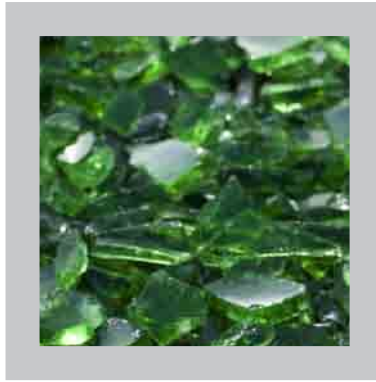
- Outdoor areas
- High fire safety areas
- Tunnels, vent shafts and exits
- Machinery enclosures
- Schools, hospitals, aged care facilities
- Road barriers, exterior plant fences
- Wet areas, car washes
- Plant rooms, substations
- Pools, spas
- Rail tunnels, transport depots
- Interior, plain, painted, rendered
- Exit ways, smoking areas, stairwells
- Airports, stations, parking exits of residential buildings
- Swimming pools

## features

Reapor is useful in the control of unwanted noise in a range of applications. It is ideal for all indoor and outdoor environments.

- High sound absorption
- Non-combustible
- Fibre-free
- Rigid and durable
- Not affected by water
- 100% recyclable
- Easily worked
- Lightweight
- Quick and simple to install
- Non-toxic, volatile organic compound free
- Simply maintained and cleaned
- May be painted
- Simple to repair
- Safe to use





### environmentally aware

Products that are sensitive to the environment are important if we are to sustain our way of life and recycling must play an important part in our future.

Being made from recycled glass bottles and binder free, Reapor panels can be recycled at the end of its application life.

### fire safety

Worldwide building codes have tightened with an increase in the understanding of the risk of harm to building occupants and users. The addition of fire retardants, while slowing the spread of fire, often did not reduce smoke production, creating unacceptable hazards in a fire. Critical areas and specified types of buildings are required by legislation to utilise products with the highest levels of fire resistance. The toughest of these legislations and the accompanying tests require the product to be virtually non-combustible.

Reapor has achieved a non-combustible rating making it safe and legal to use in all building areas and applications, resulting in a fire-safe way to control unwanted noise.

Tested to conform to DIN 4102 Part 1 Class A1.





### product construction

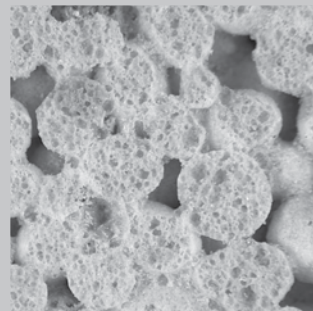
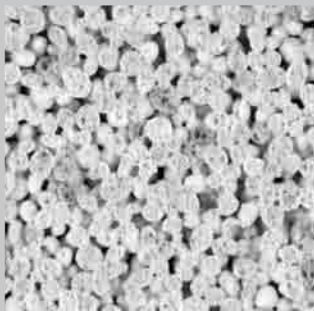
Reapor uses recycled glass as its core component. During manufacturing the glass forms expanded glass granules. Each granule acts as an acoustic absorber in its own right. Through a heating process the granules are fused together to form a homogenous panel making a highly efficient acoustic absorber.

This process stops the product from out-gassing any volatile organic compounds, developing smoke in a fire or breaking down through binder failure.

### weather, moisture and contamination

Noise control in outdoor areas or where products are affected by moisture or contamination have required elaborate methods of protection, often reducing the acoustic performance. Reapor has natural resistance to environmental contamination and is unaffected by water and sunlight.

Reapor installed correctly will last indefinitely. If exposed to damp conditions a sodium residue may appear on the surface, which will not affect the product's performance and can be simply washed off with water.







### product description

Standard panel size (stocked)	50mm x 625mm x 625mm
	24.5mm x 1200mm x 625mm

### product finishes

Reapor can be painted, graffiti-protected, or with a render finish.

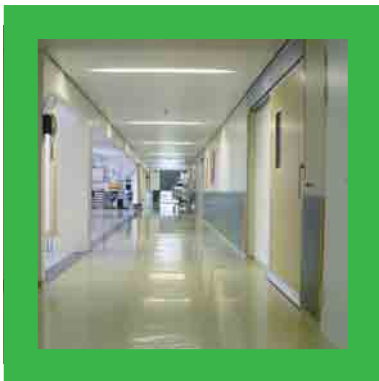
### installation

Reapor panels can be bonded using adhesive, or mechanically fixed depending on the application and substrate. To maintain the non-combustible nature of a fitted panel system, an easy-to-use specialist adhesive was developed offering a non-combustible rating and provides a permanent bond to a range of substrates. The panels can be machined and processed using standard equipment and dust protection. Reapor panels can be easily painted with non-bridging paint, rendered for a seamless finish or routed to provide varying texture and shadowing effects.

### edge detail

Reapor is available as chamfered edge for tile finish or square edge for render finish.



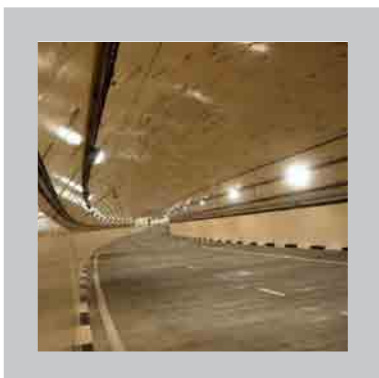


### acoustic testing

Reapor, when tested independently to ISO standard, displays exceptional acoustic performance for its thickness. Reapor benefits from its construction with each granule acting as a noise energy absorber. The high absorption properties (NRC 0.90:50mm), when combined with the product's other features, means noise control can be introduced to areas previously difficult to treat due to limitations of fire, environmental factors or work safety (fibre-free).

Reapor is tested to DIN EN ISO 354: 2003. Full report is available on request.

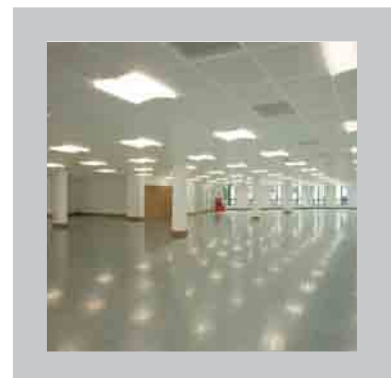
Product thickness	NRC
50 mm DIN EN ISO 354:2003	0.90
24.5 mm DIN EN ISO 354:2003	0.70





## product properties

Property	Reapor	Test method
Density	270kg/m <sup>3</sup> (±10%)	DIN 51065
Compressive strength	1.2N/mm <sup>2</sup> (±10%)	DIN 1164
Flexural strength	0.5N/mm <sup>2</sup> (±10%)	DIN 1164
Freeze-thaw resistance	0.25 loss in M%	DIN 12091
Elastic modulus (static)	760 ± 80N/mm <sup>2</sup>	DIN 1048-5
Elastic modulus (dynamic)	1.020 ± 50N/mm <sup>2</sup>	DIN 1048-5
Water vapour diffusion resistance	25	DIN 51065
Thermal conductivity	0.08W/mK	DIN 52612
Fire resistance	Non-combustible	DIN 4102 A1
Length-specific flow resistivity	10 - 20 kPa s/m <sup>3</sup>	DIN EN 29053





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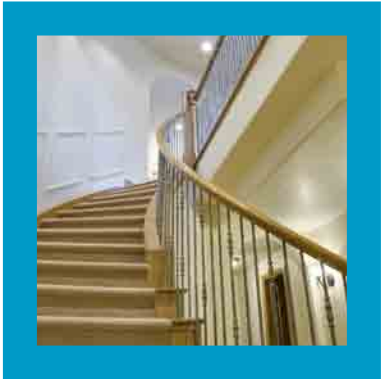


from a tump to a tiptoe, from a shout to a whisper



installation

- 1. Use standard domestic carpet gripper unless otherwise directed.
- 2. Lay the foam side of the Silentstep onto the floor surface.
- 3. Butt the edges of the Silentstep together – join each sheet with good quality underlay tape.
- 4. Silentstep has sufficient internal weight to remain in position during the fitting of the carpet. Bonding and stapling will reduce the acoustic performance of the material.
- 5. Cut the Silentstep in as per normal underlay installation.
- 6. Make certain the carpet is firmly attached to the leading gripper pins.
- 7. Bolster the carpet between the far side gripper edge and skirting board.



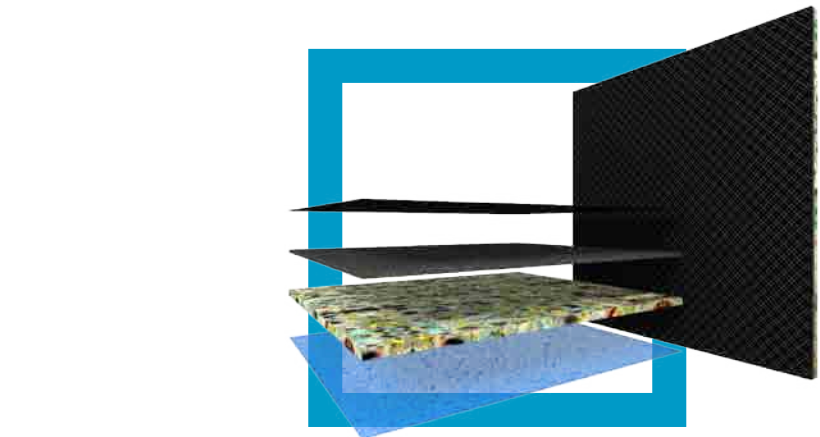


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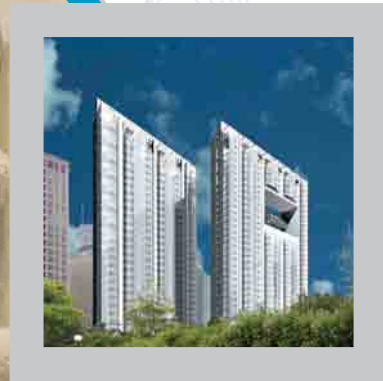
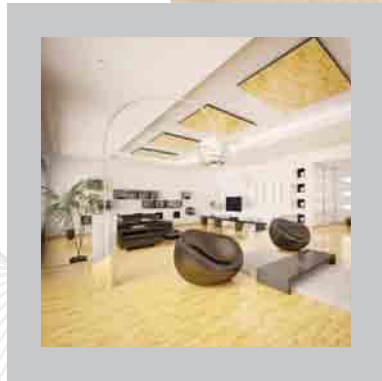
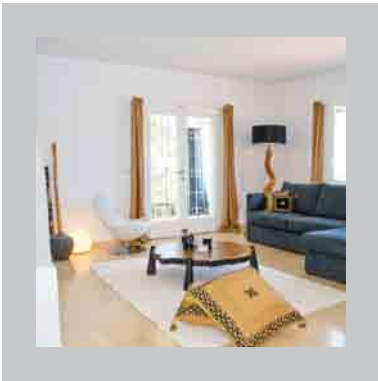
**SILENTSTEP®**  
acoustic carpet underlay



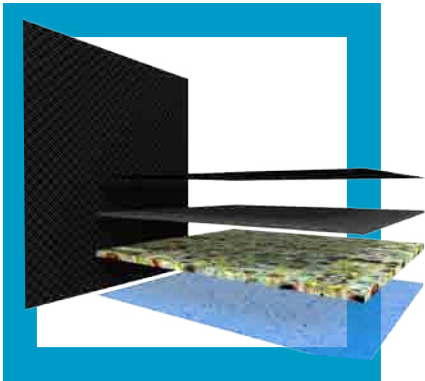
**SOUND CONTROL**  
*Acoustic Engineers*

sound absorber  
for quieter living

**Pyrotek**  
noise control







from a thump to a tiptoe, from a shout to a whisper

The trend towards high-density living and light weight building construction over the last decade has required an improvement in the control of noise in multi storey buildings. Noise issues often relate to impact noise created by foot traffic and airborne noise created by activity travelling through light weight or poorly constructed flooring systems. Silentstep offers a solution to these problems.

### product introduction

Silentstep is a cost effective high performance acoustic underlay that offers excellent support for all types of carpet. It provides a significant reduction in both airborne and impact noise from the floor above into the room directly below in two storey domestic and commercial applications.

Silentstep works to control footfall noise (impact) in inter-tenant living, reducing airborne noise from radio, TV, home entertainment systems or human voice.

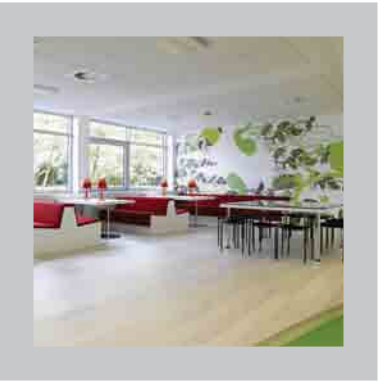
### applications

Silentstep is laid as simply as conventional underlay, replacing existing underlay. Its final manufactured thickness ensures easy laying during installation, as with conventional underlay. Silentstep maintains a high level resilience in carpet underlay applications.

For improved performance in extreme inter-tenancy noise problems, a floating floor can be created using Silentstep by laying a sub floor on top of the Silentstep then replacing the existing underlay and carpet.

Silentstep underlay creates a decoupled noise barrier with the bottom layer of foam isolating the noise barrier from the floor construction.

Silentstep's flexibility resists compression set, controlling impact noise problems. It is extremely effective as an underlay over tongue and groove floors. Silentstep underlay also performs as a seal to prevent sound transmission through gaps and cracks in older flooring.



### construction

- Silentstep is a four part laminate consisting of the following layers:
- A reinforcing layer that acts as slip resistance to prevent carpet rucking, and as a strengthening layer for the barrier providing life long stability.
  - A noise barrier which significantly reduces air borne and impact noise due to the limp heavy nature of the product.
  - A foam layer which isolates the barrier from the floor structure, allowing the barrier layer to perform independently.
  - A slip layer to help fitting and also provides reinforcing for the foam layer

Silentstep's construction has been optimised to control impact and airborne noise through its multi layer construction. Impact noise is created by the impact of foot steps across a floor. The combination of the cushioning effect of the acoustic foam and the damping of the noise barrier effectively controls this noise problem. Airborne noise is created by activity from voice, audio equipment, etc. Silentstep's heavy layer reduces the transfer of airborne noise due to its high mass and limp nature.



### properties

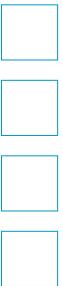
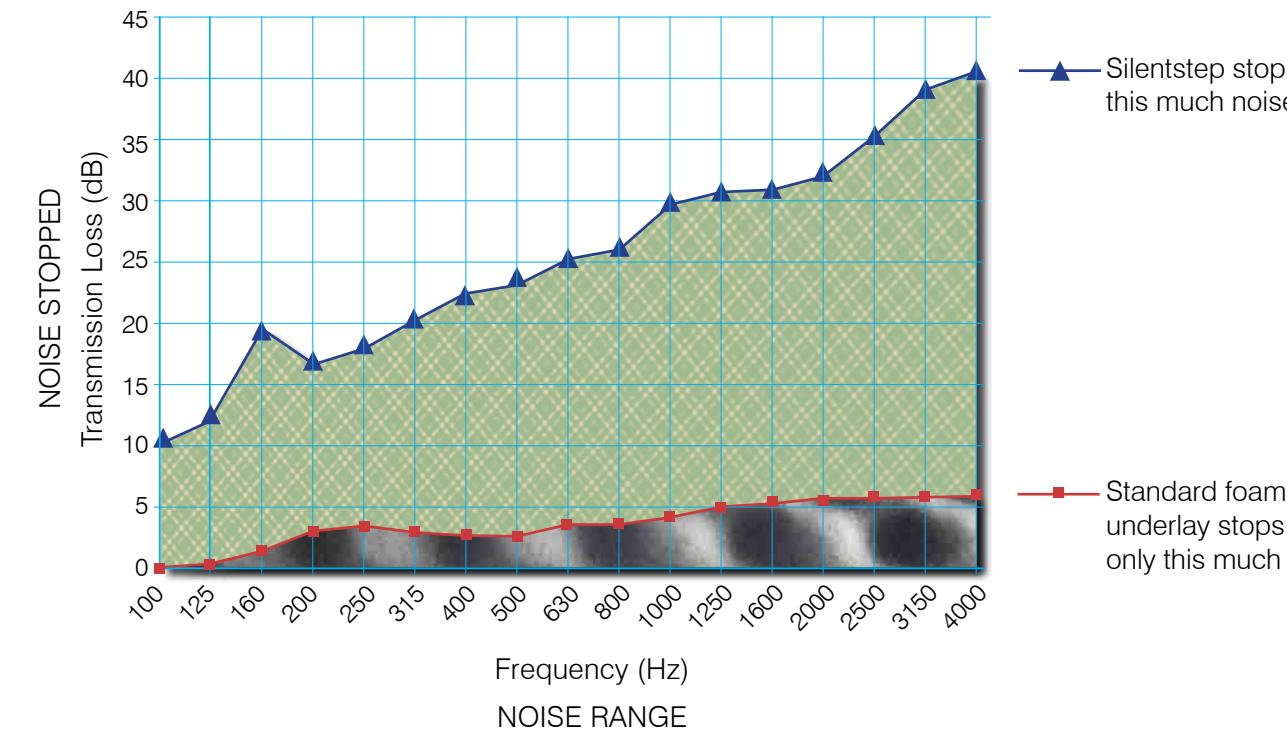
Silentstep has been tested to: ISO 140-7:1998 (E) (Impact), AS 1191-1985 (Airborne)

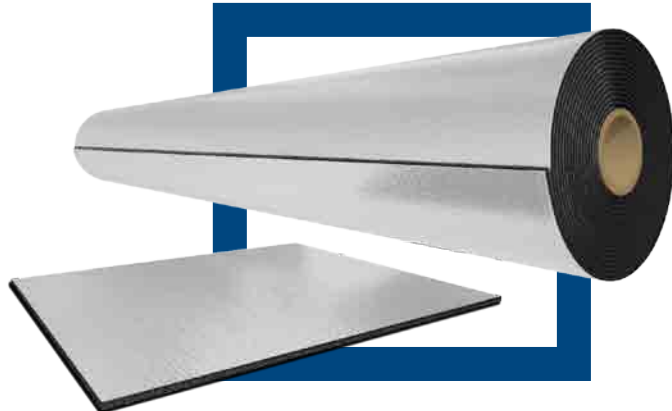
Thickness (mm nominal)	10	Rating	Result
Roll length (m)	5	$L_n + T_w + C$ - weighted impact sound pressure level + spectrum adaptation	56
Roll width (m)	1.35	$L_n + w$ - weighted impact sound level	56
Colour	Black facing	C - spectrum adaptation	- 0.3
Recommended temperature range	-20°C - + 100°C	IIC - impact insulation class	54
Foam treatment	Antibacterial	$R_w$ - weighted sound reduction index	26 - 28
		AAAC - Association of Australian Acoustic Consultants	4 star rating

Australia and New Zealand

*"The floor covering tested met the requirements of Building Code of Australia (BCA) from impact generated sound. It is predicted that using the floor covering tested in combination with a correctly constructed floor structure in dwellings between habitable rooms would meet at least AAAC 4 star rating. The improvement in the floor covering tested, over the bare timber floor, was at least 36 dB for frequencies centred on 315 Hz." (When compared to a bare timber floor as per test report)*

Comments from Report nss21031. Conducted and compiled by Ken Scannell MSc MAAS MIOA - Noise and Sound Services





# WAVEBAR<sup>®</sup>

acoustic noise barrier

)))  ))) **SOUND CONTROL**  
Acoustic Engineers



providing  
comfort  
and privacy

**Pyrotek**  
noise control



## providing comfort and privacy

Wavebar is a high performance, flexible, mass-loaded vinyl noise barrier, offering superior acoustic transmission loss. Australian made, it enjoys an unparalleled 40+ years reputation in providing effective industry-leading performance in controlling noise. Wavebar was developed to meet market requirements for reducing noise in the domestic, commercial and industrial markets. It can be used to increase transmission loss therefore reducing noise transfer in walls and ceilings, to control the level of crosstalk between acoustically sensitive rooms, to reduce inter-office noise transmission providing comfort, privacy and confidentiality, for the control of external noise interference from aircraft, traffic and rain, and to increase performance of existing structures through retrofitting over existing walls and covering with plasterboard.

### options

The Wavebar series of products is available in five formats: Original (plain product), Nonlite (for extra fire protection), Quadzero (foil-faced), Outdoor (weather-faced) and dBX (non-pvc).

### wavebar original

Wavebar® is a high-performance, flexible mass-loaded vinyl noise barrier, offering superior acoustic transmission loss.

Wavebar was designed to meet market requirements for reducing noise in the domestic, commercial, industrial and automotive markets.

To achieve this high performance, the Pyrotek engineering team developed Wavebar to be dense, thin, highly-flexible, tear-resistant and strong. These properties give the product high transmission loss throughout the various weight ranges.

Stiff lightweight panel constructions, such as plasterboard, drywall, plywood and hollow core walls, typically have coincidence dip resonance which allows noise to transmit through a construction. The coincidence dip is dependent on the material's stiffness and thickness and occurs at the point where the sound transmitted through the structure matches the natural frequency of the panel.

Wavebar prevents coincidence dip resonance. The dense core mass layer reflects and absorbs the transmission of sound through walls, ceilings and floors, reducing the critical frequencies generated from mechanical equipment, engine noise and electronic audio technologies such as radio and television.

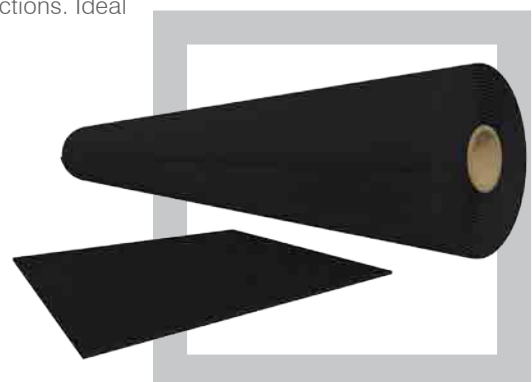
Wavebar products are environmentally safe, contain no ozone-depleting substances and comply with European and Australian standards for Volatile Organic Compound emissions.

### features

- Low cost, long lasting with over 40 years' industry use
- No ozone depleting substances generated during manufacture
- Free from lead, odour-producing oils and bitumen
- Easily installed in awkward places
- Easy to cut, sew and mechanically fasten into position
- Resistant to most chemicals, solvents and petrol
- Resistant to weather and UV light
- Tear resistant with high tensile strength. Ability to be suspended in lengths of up to 5 metres
- Available in various weights, widths, roll lengths and sheet sizes
- Available with various laminates such as foil, metallised film, foams and polyesters

### applications

- Inside cavities or over lightweight wall, ceiling and floor constructions. Ideal for home theatre rooms, office partitions, meeting rooms
- Between the plenum chamber of a floor slab, the roof and adjoining partition walls
- Acoustics doors to improve performance
- Portable acoustic curtains and screens
- Easily draped over fencing to create an acoustic barrier
- Automotive cabin application to reduce engine and road noise transmitting through a structure
- Can be laminated onto lightweight structures to damp vibration and reduce airborne noise



Wavebar Original





## wavebar nonlite

Wavebar® Nonlite is a high performance foil faced mass-loaded vinyl noise barrier offering superior acoustic transmission loss. It was developed to meet stringent fire requirements in building and transport sectors.

Nonlite complies with British Standard 476 Part 6 and 7 to achieve the highest Class 0 fire rating and Australian Standard 1530 Part 3 to achieve a four zero rating. These are the highest fire ratings achievable.

The foil facing not only enhances the low spread of flame characteristics but also makes it easy to bond onto other substrates using matching Tape ALR adhesive, or equivalent.

Stiff lightweight panel constructions, such as plasterboard, drywall, plywood and hollow core walls, typically have coincidence dip resonance which allows noise to transmit through a construction. The coincidence dip is dependent on the material's stiffness and thickness and occurs at the point where the sound transmitted through the structure matches the natural frequency of the panel.

Nonlite prevents coincidence dip resonance. The thin, dense mass barrier reflects and absorbs the transmission of sound through walls, ceilings and floors, reducing the critical frequencies generated from mechanical equipment, engine noise and electronic audio technologies such as radio and television.

Nonlite is environmentally safe, contains no ozone depleting substances and complies with European and Australian standards for Volatile Organic Compounds emissions.

## features

- Contains no ozone depleting substances
- Free from lead, unrefined odour-producing oils and bitumen
- Complies to BS476.6 and 7 - Class 0
- Complies to China rail fire requirement according to TB standard
- Easy to cut, tape and mechanically fasten into position
- The foil facing also makes it easy to bond onto other substrates using matching Tape ALR adhesive or equivalent.
- Self extinguishes upon removal of flame
- Resistant to water, oil and natural weather conditions
- Tear resistant with high tensile strength. Ability to be suspended in lengths of up to 5 metres
  - Available in various weights, widths and roll lengths
  - Available with various laminates such as foams, polyesters and fibreglass



Wavebar Nonlite

## applications

- Inside cavities or over lightweight wall, ceiling and floor constructions
- Ideal for home theatre rooms, office partitions and meeting rooms
- Applied in marine engine rooms & deck heads to reduce noise transmission





- Rail carriages for under floor insulation to reduce track and break noise
- Designed around the outside of metal air ducts to reduce noise breaking out
- Wrapped around noisy pipes, i.e. fluid or gas pulsation in chemical, petrochemical and waste water treatment plants
- Applied around valves and fan casings.

### wavebar outdoor

Wavebar® Outdoor is a high performance, flexible, tough, mass-loaded vinyl noise barrier curtain offering superior acoustic transmission loss. It was developed to meet market requirements in reducing noise on construction and industrial sites. To achieve its high performance, Pyrotek engineered Outdoor using a tear resistant, high tensile strength tarpaulin base fabric to give added support and weather resistance for both indoor and outdoor applications.

Typically, Outdoor can be designed as partial or complete enclosures around noise sources to reduce noise transference.

Outdoor can also be laminated to Sorberfoam™ or Sorberpoly™ to create a curtain that will reflect and also absorb noise within an enclosure. It can easily be cut and fabricated into various shapes to suit any design or area.

The extraordinary strength of Outdoor provides the versatility to hang or drape in long lengths, with the attachment of velcro seals to create easy accessibility to the enclosure.

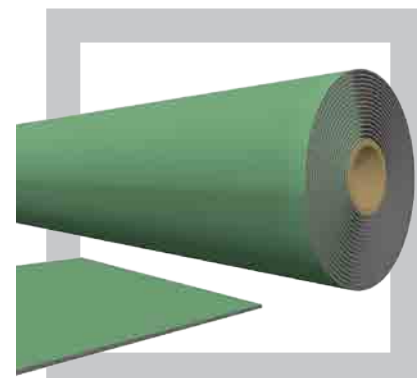
Acoustic curtains are especially useful around industrial equipment and building sites, since curtains offer more versatility and economy than rigid installations.

Outdoor prevents coincidence dip resonance. The thin, dense mass barrier reflects and absorbs the transmission of sound through walls, ceilings and floors, reducing the critical frequencies generated from mechanical equipment, engine noise and electronic audio technologies such as radio and television.

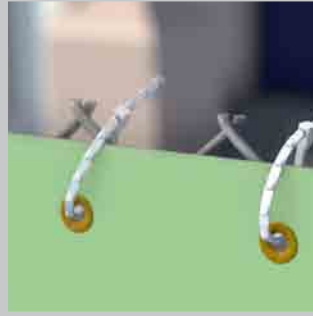
Outdoor is environmentally safe, contain no ozone depleting substances and complies with European and Australian standards for Volatile Organic Compounds emissions.

### features

- Low cost, long lasting with over 40 years' industry use
- No ozone depleting substances are generated during manufacture
- Easy to cut, sew, high frequency weld, or mechanically fasten into position
- Able to attach velcro, eyelets and grommets
- Resistant to most chemicals, solvents and petrol
- Resistant to weather and UV light
- Ability to suspend in lengths in excess of 20 metres
- High tear resistance, tolerates high wind conditions
- Available in various weights, widths & roll lengths
- Choice of five colours - military green, royal blue, grey, yellow and orange
- Available with various laminates such as Sorberfoam™ or Sorberpoly™



Wavebar Outdoor



## applications

- Both indoor and outdoor applications
- Around construction sites to reduce environmental noise issues
- Acoustic expansion joints to reduce break-out noise in air conditioning duct systems
- Portable acoustic curtains and screens. Easily draped over fencing to create an acoustic barrier
- Enclosures for industrial equipment such as punch presses, blowers, drop saws, granulators and generators
- Ideal noise curtain for portable mobile equipment including jack hammers, drilling rigs and pile drivers
- Can be designed to be installed into a C-track support system for moveable / concertina curtains

## wavebar quadzero

Wavebar® Quadzero is a high performance, foil-faced, mass-loaded vinyl noise barrier, offering superior acoustic transmission loss and low spread of flame surface covering.

Quadzero was developed to meet market noise reduction requirements in the domestic, commercial, industrial and OEM sectors.

To achieve this high performance, the Pyrotek engineering team developed Quadzero to be dense, thin, strong, tear-resistant and highly flexible. These properties give the product high transmission loss throughout the various weight ranges. It complies with British and International fire and building codes for low spread of flame. Stiff lightweight panel constructions, such as plasterboard, drywall, plywood and hollow core walls, typically have coincidence dip resonance which allows noise to transmit through a construction. The coincidence dip is dependent on the material's stiffness and thickness and occurs at the point where the sound transmitted through the structure matches the natural frequency of the panel.

Quadzero prevents coincidence dip resonance. The thin, dense mass Quadzero barrier reflects and absorbs the transmission of sound through walls, ceilings and floors, reducing the critical frequencies generated from mechanical equipment, engine noise and electronic audio technologies such as radio and television.

Quadzero products are environmentally safe, contain no ozone-depleting substances and comply with European and Australian standards for Volatile Organic Compound emissions.

## features

- Low cost and long lasting with over 40 years' industry use
- No ozone depleting substances generated during manufacture
- Complies to IMO 653.16 - low spread of flame.
- Complies to AS1530.3 & BS 467.6/7 building codes
- Free from lead, odour-producing oils and bitumen
- Easily installed in awkward places
- The foil facing also makes it easy to bond onto other substrates using matching Tape ALR adhesive or equivalent.
- Easy to cut, sew, tape and mechanically fasten into position



Wavebar Quadzero



- Resistant to water, oil and natural weather conditions
- Tear resistant with high tensile strength. Ability to be suspended in lengths of up to 5 metres
- Available in various weights, widths and roll lengths
- Available with various laminates such as foams, polyesters and fibreglass

## applications

- Inside cavities or over lightweight wall, ceiling and floor constructions. Ideal for home theatres, office partitions, meeting rooms.
- Over roof joists to reduce aircraft, rail and traffic noise.
- Applied between the plenum chamber of a floor slab, roof and adjoining partition walls.
- Installed around the outside of metal air ducts to reduce noise break-out.
- Wrapped around noisy pipes, e.g. fluid or gas pulsation in chemical, petrochemical and waste water treatment plants.
- Wrapped around valves and fan casings.
- Automotive firewalls to reduce engine and road noise transmitting through the structure.
- Rail carriages for under floor insulation to reduce track and braking noise.

## wavebar dBX

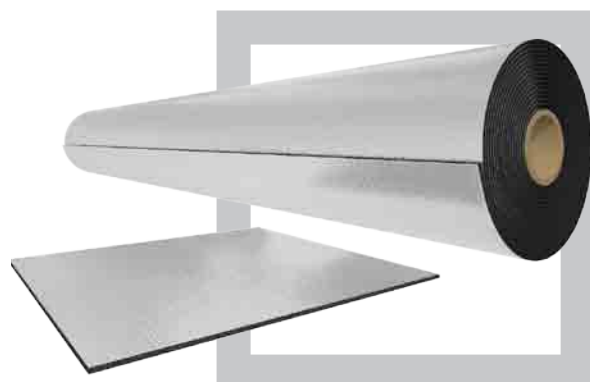
Wavebar® dBX is a high performance, flexible, mass-loaded, polymer noise barrier offering superior acoustic transmission loss. dBX represents the latest in alternative noise barrier technology using recycled polymers that are halogen-free. It was developed to meet market noise reduction requirements for the domestic, commercial, industrial, automotive and marine markets.

Wavebar dBX is available with a reinforced foil facing. This high performing product was engineered by Pyrotek to achieve a self-extinguishing, low smoke emission, thin, strong and highly flexible product. These properties, combined with foil facing, give dBX added strength, high transmission loss and fire rating, complying with IMO 653.16 marine standard, and building code for low spread of flame. The foil facing also makes it easy to bond onto other substrates using matching Tape ALR adhesive or equivalent.

Stiff lightweight panel constructions, such as plasterboard, drywall, plywood and hollow core walls, typically have coincidence dip resonance which allows noise to transmit through a construction.

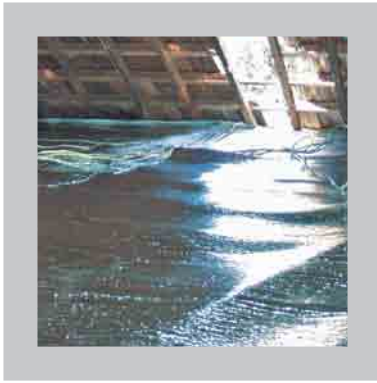
The coincidence dip is dependent on the material's stiffness and thickness and occurs at the point where the sound transmitted through the structure matches the natural frequency of the panel.

dBX prevents coincidence dip resonance. The thin, dense mass barrier reflects and absorbs the transmission of sound through walls, ceilings and



Wavebar dBX





floors, reducing the critical frequencies generated from mechanical equipment, engine noise and electronic audio technologies such as radio and television.

dBX products are environmentally safe, contain no ozone-depleting substances and comply with European and Australian standards for Volatile Organic Compound emissions.

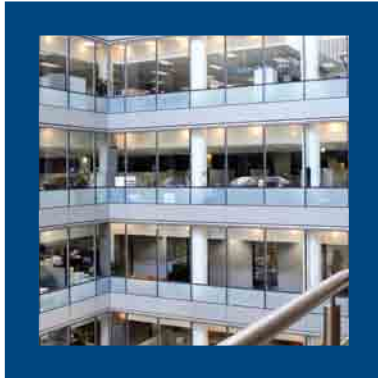
## features

- No ozone-depleting substances generated during manufacture
- Free from lead, odour-producing oils, halogens and bitumen
- Complies with IMO 653.16 (low spread of flame) and AS1530.3 (low smoke emission) for foil faced
- Easy to cut, tape and mechanically fasten into position
- Self-extinguishes upon removal of flame, does not drip
- Resistant to water, oil and natural weather conditions
- Tear-resistant with high tensile strength
- Thermo-formable into different shapes (without foil facing)
- Available in various weights, widths and roll lengths
- Available with various laminates such as fabrics, foams and polyester fibre

## applications

- Marine engine rooms and deckheads to reduce noise transmission
- Rail carriages for under floor insulation to reduce track and braking noise
- Inside cavities or over lightweight wall, ceiling and floor constructions. Ideal for theatres, office partitions, meeting rooms and high privacy areas.
- Between the plenum chamber of a floor slab, roof and adjoining partition walls
- Acoustic doors to increase transmission loss
- Automotive cabin application to reduce engine and road noise transmitting through the structure
- Can be laminated onto lightweight structures to dampen and reduce airborne noise
- Usable where moulded parts or components are required

*For technical information, test results and mechanical proprieties please refer to the product information page which can be found on our website [www.pyroteknc.com](http://www.pyroteknc.com) - when on the website use the quick navigation to locate the wavebar product you want more detail on.*



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