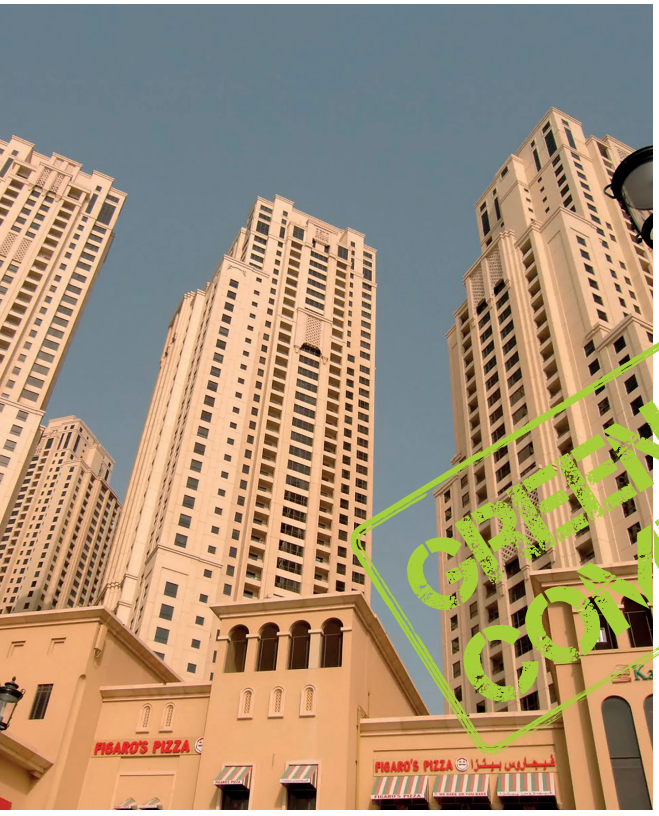
ACOUSTIC NOISE BARRIER



GREEN STAR COMPLIANT

WuWave

- High noise reduction
- Eliminates impact noise
- Effective for silent walls
- Stops inter-office noise
- Essential fit-out material
- Low V.O.C.
- Meets ODP-EMI 4

AUSTRALIAN MADE

thermotec australia pty ltd.

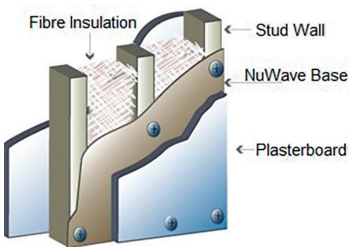
Thermotec NuWave Acoustic Products

HIGH PERFORMANCE NuWave Noise Barrier Products

Thermotec NuWave Acoustic products are designed to meet the requirements of modern buildings, building standards and codes of the Countries, States or Industry categories where these products are specified and installed.

Thermotec NuWave Acoustic Typical Applications

- Partitions and common walls - housing units
- Noise Barrier screens, temporary & permanent
- Carpet underlay - studios, theatres, offices
- Ceiling - offices, meeting rooms, home theatres
- Studios, theatres, media rooms & hospitals
- Heavy industrial machinery - noise isolation
- Waste/Soil pipes - noise reduction
- Plant rooms, engine rooms, heavy transport
- Acoustic Doors
- Mining barrier screens—Milling, screening, etc.
- Fan & Blower Housings



Thermotec NuWave Acoustic Barrier

- NuWave mass loaded vinyl barriers - 4kg, 6kg & 8kg
- Other densities available on request
- Low profile - High Performance - long life
- Industry acceptance and proven performer
- Available as 4-Zero fire rated & outdoors variants
- No ozone depleting substances (ODP-EMI 4)
- Available in composite products - NuWrap 5 & Cabmat
- Easy to cut and install as curtains, inside walls and ceilings
- Low VOC - meets Green Building Council requirements
- Maximum transmission loss across the range of frequencies

Properties

Standard Roll Size	1350mm x 5 metre / 1350mm x 3 metre
Weight - nominal	NuWave 4kg/m2, NuWave 6kg/m2, NuWave 8kg/m2
Thickness - nominal	NuWave 4kg = 2mm, NuWave 6kg=3mm, NuWave 8kg = 4mm
Operating Temperature	Up to 100° C
Green Building Council Compliant	Yes (Low VOC & ODP-EMI4)
Available as Fire Tested Product	NuWave 4-Zero Foil Faced—AS/NZS1530.3
Barrier Material	Barium loaded limp mass PVC– Mass Loaded Vinyl (MLV)
Country of Manufacture	Australia

"quality is not expensive, it's priceless"

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Thermotec NuWave Mass Loaded Barrier

The NuWave range of high performance barriers is based on high density, limp mass polmers to take the energy out of sound waves right across the hearing frequency spectrum. NuWave barriers are flexible, inexpensive and will control unwanted noise from home theatre systems, aircraft noise, machinery noise, unwanted noise through walls and floors, office ceilings and other types or airborne noise.

When noise and sound transmission needs to be effectively controlled, NuWave Noise Barriers provide the solution to ensure that building standards are complied with, and that noise levels are effectively reduced.

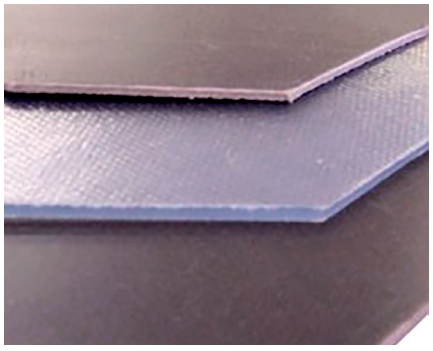
NuWave noise barriers are also manufactured in various composite products such as high performance carpet underlays, heavy transport cabin insulation, plant room noise control, and waste pipe.

NuWave Barriers Performance Summary

Test No.	Description of Sample	STC rating	Rw(C, Ctr)
1	**Thermotec NuWave 4kg/m2**	**26**	**26 (-1,-3)**
2	**Thermotec NuWave 6kg/m2**	**29**	**29 (-1,-4)**
3	**Thermotec NuWave 8kg/m2**	**30**	**30 (-1,-4)**

NuWave Base Test Data

Third Octave Band Centre Frequency (Hz)	4kg/m2 Sound Transmission Loss (dB)	Precision Achieved	6kg/m2 Sound Transmission Loss (dB)	Precision Achieved	8kg/m2 Sound Transmission Loss (dB)	Precision Achieved
100	15	1.0	16.7	0.6	16.9	2.0
125	16	0.8	16.4	1.0	17.3	1.6
160	13	0.6	16.0	0.7	16.9	1.0
200	15	0.9	18.0	1.2	19	0.7
250	18	0.4	20.3	1.7	22.2	0.8
315	17	0.5	21.0	0.3	21.8	0.3
400	20	0.4	22.2	0.3	24.8	0.6
500	21	0.5	25.0	0.4	25.5	0.5
630	23	0.1	26.9	0.5	26.9	0.4
800	25	0.2	28.2	0.4	29	0.5
1000	26	0.3	29.0	0.4	30.4	0.4
1250	28	0.2	30.7	0.2	32	0.5
1600	29	0.3	32.6	0.2	33.2	0.4
2000	31	0.2	34.3	0.5	35.2	0.5
2500	33	0.2	35.8	0.2	36.9	0.5
3150	35	0.2	37.4	0.3	38.6	0.5
4000	37	0.2	39.8	0.2	40.7	0.4
5000	42	N/A	43.2	N/A	44.5	N/A
Rw/STC	26		29		30	
Rw(C,Ctr)	26(-1,-3)		29(-1,-4)		30(-1,-4)	



Wall & Ceiling Predictions

BCA F5.5 (a) Sound insulation rating of walls—A wall in a Class 2 or 3 building must -

(I) have an Rw + Ctr (airborne) not less than 50, if it separates sole-occupancy units;and

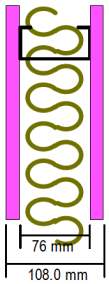
(II) have an Rw (airborne) not less than 50, if it separates a sole-occupancy unit from a plant room, liftshaft, stairway, public corridor, public lobby or the like, or parts of a different classification

(c) A wall in a Class 9c aged care building must have an Rw not less than 45 if it separates-

(I) a sole-occupancy unit;or

(II) a sole-occupancy unit from a plant room or liftshaft

Typical Double Stud Party Wall Construction—BCA Compliant

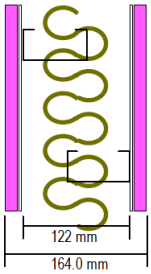


Rw	**44 dB**
C	**-3 dB**
Ctr	**-10dB**
DnTw	**46dB**

SYSTEM DESCRIPTION

Panel 1: 1 x 16mm CSR Gyprock Fyrecheck Plasterboard
Cavity: Steel stud (20g-16g): Stud spacing 600mm Infill: Fibreglass 60mm (10kg/m3)
Panel 2: 1 x 16mm CSR Gyprock Fyrecheck Plasterboard
Mass air-mass resonant frequency = 77Hz

Typical Stud Wall Construction for internal walls—BCA Compliant

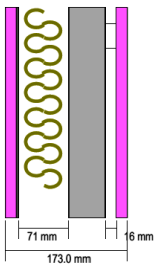


Rw	**60 dB**
C	**-3 dB**
Ctr	**-10dB**
DnTw	**62dB**

SYSTEM DESCRIPTION

Panel 1: 1 x 16mm CSR Gyprock Fyrecheck Plasterboard + 1 x NuWave 6kg/m2 (5mm)
Cavity: Staggered Steel stud, spacing 600mm Infill: Fibreglass 75mm (22kg/m3)
Panel 2: 1 x NuWave 6kg/m2 (5mm) + 1x 16mm CSR Gyprock Fyrecheck Plasterboard
Mass air-mass resonant frequency = 48Hz

Typical Speedwall Party Wall Construction—BCA Compliant



Rw	**62 dB**
C	**-3 dB**
Ctr	**-10dB**
DnTw	**64dB**

SYSTEM DESCRIPTION

Panel 1: 1 x 16mm CSR Gyprock Fyrecheck Plasterboard + 1 x NuWave 6kg/m2 (5mm)
Cavity: None - Stud spacing 600mm, infill Fibreglass 50mm (22kg/m3)
Panel 2: 1 x 51mm Speedwall 750kg/m3
Cavity: Steel stud (0.55mm) Stud spacing 600mm
Panel 3: 1 x 16mm CSR Gyprock Fyrecheck Plasterboard
Mass air-mass resonant frequency = 60Hz, 180Hz

Typical Ceiling Attenuation Class (CAC) Predictions

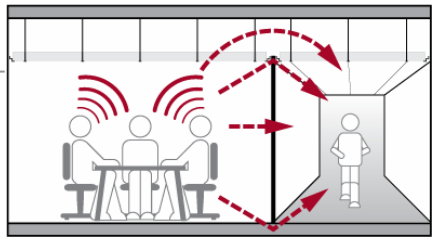


Table 1 is a summary of the acoustic opinion considering the assumptions in this report. It is to be noted that this acoustic opinion is likely to be within ±2dB of a laboratory test and that the performance in the field is likely to be lower.

Table 1 – Opinion of the CAC for various ceiling plenum systems

NuWave Product (kg/m^2)		
4	6	8
Base ceiling minimum CAC 30		
43	44	45
Base ceiling minimum CAC 35		
48	49	50

NuWave will need to be installed so that all penetrations, material overlaps, interface with the soffit and the back of the ceiling are sufficiently detailed with respect to acoustics. Furthermore,the extent of the plenum, including the likely amount of return,will/may need consideration to facilitate the final acoustic outcomes.

Manufactured by Thermotec Australia Pty Ltd
168 Carrington Street Revesby NSW 2212
www.thermotec.com.au

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