

EKHO

INFRASTRUCTURE
SOLUTIONS

 **nexcem**



NEXCEM RAIL SILENCERS

Acoustic railway silencer with proven sound attenuation.

Another noise mitigation strategy from EKHO.

A system designed, tested and proven to eliminate railway noise.

Tested at both high-speed and regular metro train speeds, the profile distribution of sound is similar across all trains. The speed at which it travels simply elevates the overall sound level (intensity/frequency).

The search for an effective way to minimize the noise generated by trains of all shapes and sizes is certainly not new. However, Nexcem's findings around specific frequency targeting reveals the solution lies in how well the sound absorption profile matches the noise generated.

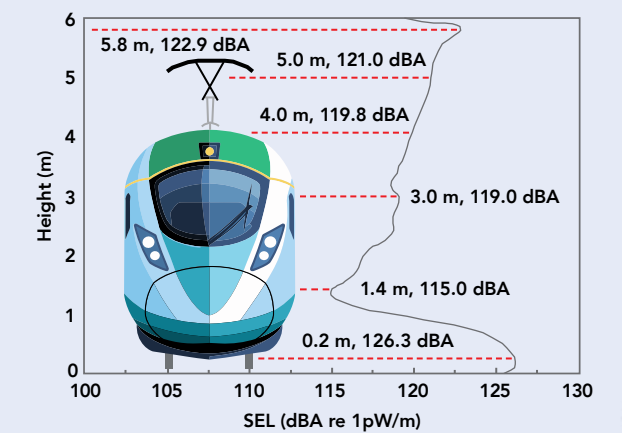
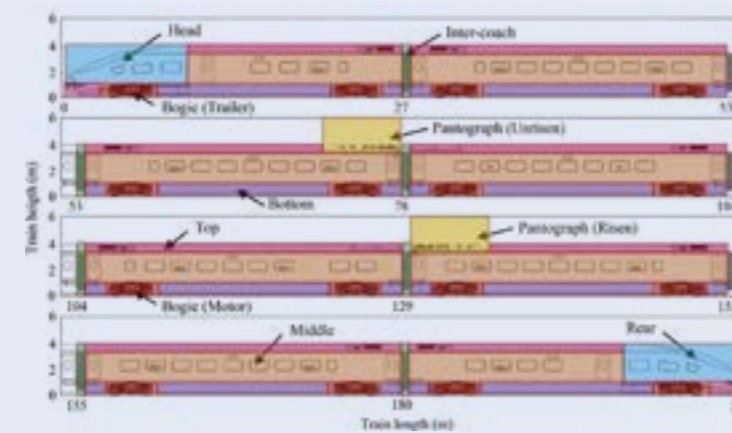
By reducing noise generated by trains at the source, we are better able to protect both the travelers on the train and the surrounding residents from excessive noise.

Minimize The Noise At The Source

The Nexcem Acoustic Railway Silencer is a unique patented system that has been designed, tested and proven to eliminate railway noise directly at the source. The Silencers are placed between the railway lines and come in various configurations of Nexcem material, air chambers and/or low frequency acoustic materials. Each configuration is designed to target specific frequency ranges of noise that may be of special concern.

A train can be heard coming from miles away.

When researchers assessed where the sound comes from on a train specifically, 75% of the total sound generated came from 3 areas: the Bottom, the Bogie, and the Middle of the train (as seen in the diagram below).



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A MORE SUSTAINABLE OPTION

A unique composite material made from recycled waste wood (100% natural clean lumber) that is bonded with standard Portland Cement.

- ✓ Lightweight, easy to transport to site and install
- ✓ 80% recycled content (by volume)
- ✓ No VOCs or offgassing



SOUND ABSORPTION | LIGHTWEIGHT | FAST INSTALLATION | SUSTAINABLE MATERIAL

NEXCEM SILENCER TYPES DESIGNED TO TARGET VARYING FREQUENCY RANGES:

Nexcem Silencer Type	Total Height (H) mm / in	Top Layer Nexcem (T) mm / in	Absorptive Core (C) mm / in	Layer Nexcem (B) mm / in	Core Fill (Air / Ins)	Tested NRC	Tested SAA	Tested Alpha w	Peak Absorption Freq. Range (Hz)
RS 100	100 / 4	n/a - Solid	n/a - Solid	n/a - Solid	n/a - Solid	0.80	0.78	0.70 (M,H)	(450 - 950), (1700 - 4000)
RS 150	150 / 6	n/a - Solid	n/a - Solid	n/a - Solid	n/a - Solid	0.95	0.91	0.95	(250 - 600), (950 - 4000)
RS 200	200 / 8	100 / 4	50 / 2	50 / 2	Air	0.90	0.90	0.80 (L, H)	(200 - 475), (950 - 4000)
RS 200 AP	200 / 8	100 / 4	50 / 2	50 / 2	Insulation	0.95	0.98	0.90 (L)	(125 - 500), (1000 - 4000)
RS 250	250 / 10	100 / 4	100 / 4	50 / 2	Air	0.95	0.89	0.75 (L, M, H)	(150 - 275), (950 - 4000)
RS 250 AP	250 / 10	100 / 4	100 / 4	50 / 2	Insulation	0.95	0.90	1.00	All Frequencies

FEATURES & BENEFITS



NOISE PROTECTION

The sound absorptive properties of the material targets a peak frequency range using a mineral fibre acoustic insulation.

- NRC rating of 0.95.
- Coupled with noise walls, potential for greater overall noise reduction.
- 200 or 250 AP insulation inserts are available to protect against lower frequency noise.



FIRE RESISTANCE

The material has been tested to all applicable standards and is suitable for non-combustible construction, with a:

- 4 hour fire rating
- 0 flame spread / smoke developed



STRONG & DURABLE

Tested for impact, weather and moisture resistance, the material is backed by a 25-year guarantee.

- +1 MPa compressive strength.
- Each silencer can withstand loads of 2000 kg / 4400 lbs.



INSTALLATION

Nexcem silencers can be easily field cut and secured with simple carpentry tools.

NRC

Up to 0.95

FIRE RESISTANCE

4 Hour Fire Rating

COMPRESSIVE STRENGTH

+1 MPa

WITHSTAND LOADS OF

2000 kg/
4400 lbs



SPECIFICATIONS

Nexcem Railway Silencers are:

- 915 mm (36") wide
- 305 mm (12") long
- Various heights and absorption core sizes are available.



INFRASTRUCTURE SOLUTIONS

A high-speed train in motion, blurred background, with a green and blue gradient overlay.

NEXCEM RAIL SILENCERS

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