

Noise Barrier Types



It's no surprise that acoustic fencing is becoming more popular as the modern world becomes more densely inhabited than ever before. We are frequently surrounded by unwelcome sounds, from noisy neighbors to vehicles. With recent World Health Organization (WHO) studies indicating that noise pollution can have an influence on both mental and physical health, it's critical to understand the many types of noise barriers that can provide some much-needed peace and quiet.

Noise barrier must be impermeable in general to prevent sound from flowing through gaps (for example, hit and miss or slatted fencing types would not be good noise barriers) and have a minimum mass of 10kg/m² as noise can travel through lighter materials. Aside from the ability to prevent sound, additional aspects to consider include beauty, privacy, size, cost, and maintenance. Earth bunds and timber acoustic fencing, for example, fit nicely into the natural surroundings and are suitable for residential homes, but concrete and steel barriers may be better suited to industrial sites.

Wooden noise barriers

Timber noise barriers are excellent for most sites (especially schools, houses, and business sectors) due to their attractive natural appearance and ease of installation, as they resemble a timber garden fence while giving up to a 32dB decrease in noise. A deep V tongue and groove fence stops sound from passing through the barrier while still providing seclusion.

Timber acoustic barriers, which have an anti-climb flat shape and can be supplemented with steel for high security applications, also provide greater security. Timber barriers' variety extends to noise performance, as they can be either reflective or contain an additional absorptive layer on one side. These can also be CE marked as a road noise system.

Timber barriers should be manufactured of kiln-dried, pressure-treated wood with a lengthy warranty to ensure little maintenance and endurance. Timber noise barriers will last for many years because they are impermeable.

Noise barriers made of metal

Metal barriers are solid and durable, and they can reduce noise by up to 28 decibels. To prevent undesired sound from leaking through, the barrier should have a minimum mass of 10kg/m² in order to function properly.

Metal noise barriers, like timber noise barriers, are available in both reflective and absorptive varieties, albeit the reflective can cause an echo effect in particular applications. Metal noise barriers are better suited to commercial or industrial settings because they appear less friendly than timber barriers, and it's important to remember that a seaside location would have a marine coating on the barrier to avoid rust.

Noise barriers made of concrete

Many people are put off by concrete's negative environmental impact, yet it does have some advantages, such as high performance and ease of construction. Concrete noise barriers are more expensive than other types of noise barriers, such as wood, and are more obtrusive due to the height and thickness required for efficient noise attenuation, which is often approximately 50dB.

Noise-cancelling bricks

Brick noise barriers, like concrete, can be costly, but they are significantly more aesthetically beautiful than concrete counterparts. With a long construction time and experienced bricklayers necessary, brick noise barriers can be expensive on larger sites, but their noise reduction potential is roughly 40dB.

Noise barriers made of acrylic or perspex

Acrylic and Perspex noise barriers are useful if viewing through a barrier is necessary but privacy is not a problem. The material's smooth, flat surface provides built-in protection because it is naturally difficult to climb and repellent to potential attackers. While acrylic and Perspex are effective noise barriers, lowering noise by up to 32dB, they are prone to warping.

Walls made with gabions

Gabion walls are a visually appealing, durable, and cost-effective boundary marker for a variety of applications. Gabion walls can be quite successful as a noise barrier, but they require both thickness and height, which might make the wall stand out rather than blend in. A one-metre-thick wall can cut noise by up to 60 decibels.

The gabion baskets or cages that make up the wall are made of wire mesh, which rusts and can entangle litter and waste, therefore they must be maintained on a regular basis. The mesh can also be used as a footing, making gabion barriers less secure and simpler to climb.

Earthen bunds

Earth bunds are essentially big mounds of dirt erected around a property; they are frequently used to direct water flow but also serve as an effective noise barrier. Because earth bunds take up a lot of room, architects or developers may prefer more compact noise barriers, such as fence. Earth bunds also require upkeep to control plant development, especially near roadways, despite their appealing, natural appearance.