

含有廢棄輪胎橡膠及溫拌添加劑的可持續低噪音路面

Sustainable Low-noise Pavements Built with Waste Tyre Rubber and Warm Mix Additives

以升級再造及低排放方法鋪設能夠降低噪音的耐用路面

An upcycling and low-emission method for building durable and noise-reducing pavement

創新的可持續低噪音路面由廢棄輪胎橡膠、溫拌瀝青添加劑、普通瀝青及小粒徑骨料製成。其中，特別設計的小粒徑骨料和間斷級配瀝青混合料能強化道路的結構，提升耐用度，同時減少噪音污染；而溫拌添加劑則能降低拌合施工物料及進行壓實工序所需的溫度，減少鋪設路面過程中的能源消耗和排放，減輕對附近環境所造成的空氣污染和滋擾。可持續低噪音路面的路面噪音比傳統瀝青路面低三分貝。



溫拌添加劑能降低施工所需的溫度，減少鋪設路面的能源消耗和排放
The warm mixing additive can reduce the temperature required, thus lowering energy consumption and emission during the paving process



把廢舊輪胎橡膠升級再造成路面材料
Upcycling waste tyre rubber into pavement material



可持續低噪音路面已接受近距離路面噪音測量車測試，證明其路面噪音比傳統瀝青路面低三分貝
Sustainable low-noise pavements were tested with a close-proximity (CPX) trailer and proven to generate tyre-road noise which is 3dB less than that of conventional asphalt pavements

The innovative sustainable low-noise pavements are built with waste tyre rubber, warm mix additives, conventional bitumen and small-sized aggregates. The mixture of gap-graded bituminous and small-sized aggregates is specially designed which can strengthen the structure of the pavement, enhance its durability and reduce noise pollution. The warm mixing additive can reduce the temperature required for material mixing and compaction, lowering energy consumption and emission during the paving process, thereby reducing the air pollution and nuisance caused to the environs. The tyre-road noise of sustainable low-noise pavements is 3 decibels (dB) lower than that of conventional asphalt pavements.

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特色與優點

- 把廢棄輪胎的橡膠升級再造成鋪設路面的材料，減少固體廢物
- 減少鋪設路面的能源消耗和排放
- 把路面噪音降低三分貝
- 提高路面的耐用性

應用

- 升級再造廢棄輪胎
- 鋪設路面

獎項

香港綠色創新大獎 - 銀獎 (2019 年4 月)

Special Features and Advantages

- Upcycles waste tyre rubber into pavement materials to reduce the solid waste
- Reduces energy consumption and emissions during the paving process
- Reduces the tyre-road noise by 3dB
- Improves the durability of pavements

Applications

- Waste tyre upcycling
- Pavement laying

Award

Silver Award – Hong Kong Green Innovations Awards (Apr 2019)



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