

# Anti-Freezing Musical Pavement MELODY THE-PEC

Revêtement de chaussée à fonction de prévention du verglas émettant une mélodie  
MELODY THE-PEC



## Overview

MELODY THE-PEC is a paving method that combines musical road technology, which plays a melody when a vehicle passes over road-surface grooves, and anti-freezing pavement that utilizes grooving.



## Features

### Musical road

The musical road consists of a series of transverse grooves cut at predetermined intervals and a series of grooveless sections (flat zones) on the road surface. A melody can be heard when a vehicle travels over the musical road at a certain speed.

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### Anti-freezing pavement

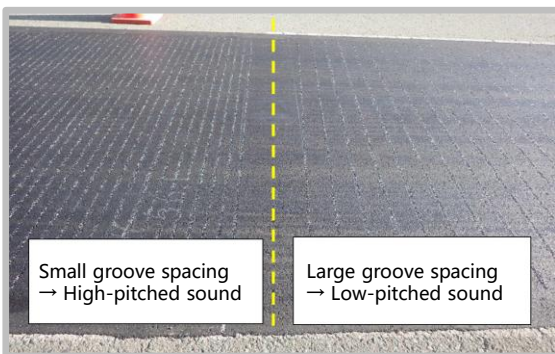
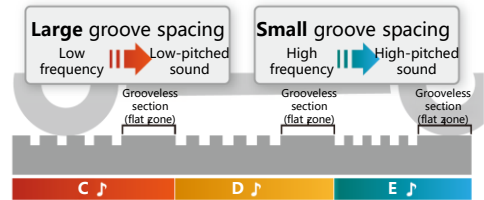
Transverse grooves on the road surface are filled with anti-freezing material to prevent the surface from freezing in winter.



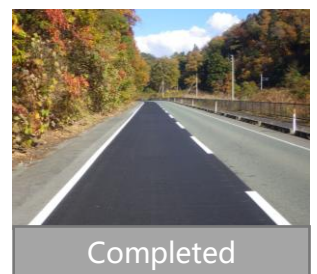
Grooves

### Year-round traffic safety measures

The combined use of these two strong technologies helps raise public awareness about traffic safety and prevent drivers from falling asleep at the wheel and restrict vehicle speed in spring, summer, and autumn, when there is no snow. In winter, when snow turns roads slippery, the anti-freezing function of the pavement can help prevent skidding accidents.



## Construction method



# Asphalt Finisher Remote Control System

## Système de télécommande pour finisseurs d'asphalte



### Overview

This system allows an asphalt finisher operator to control the machine remotely and automates its steering and travel speed.

Typical paving work using a large asphalt finisher requires a two-member crew consisting of a finisher operator and an adjuster. By allowing the operator to control the finisher remotely, this system eliminates the need for an on-site support worker, contributing to labor saving and productivity improvement.



This technology was awarded the first prize of the Katahira Award (Development of Remote Control Technology for Asphalt Finisher) at the 17th REAAA (The Road Engineering Association of Asia and Australasia) Conference.



### Remote-controllable tasks

Control system	Remote-controllable item
Operation	Forward/backward movement
	Steering
	Speed adjustment
Placing and spreading	Hopper opening/closing
	Bar feeder operation
	Screw operation
Safety	Horn
	Dump truck guidance



Hopper and feeder



Screw



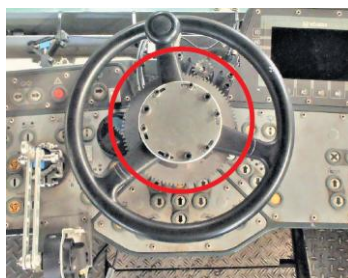
Dump truck guidance and dumping

### Tasks involving automatic steering

The AI system uses a built-in camera to track the paving formwork and automatically steer the asphalt finisher. The speed control can also be automated.



AI system tracking the formwork



Automatic steering control system



Automatic travel speed adjustment



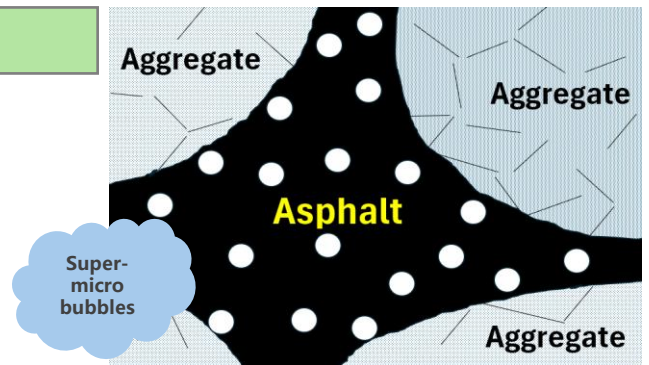
# Mechanically Foamed Asphalt Mixture Mibble-Eco

Mélange d'asphalte moussé par  
procédé mécanique  
Mibble-Eco



## Overview

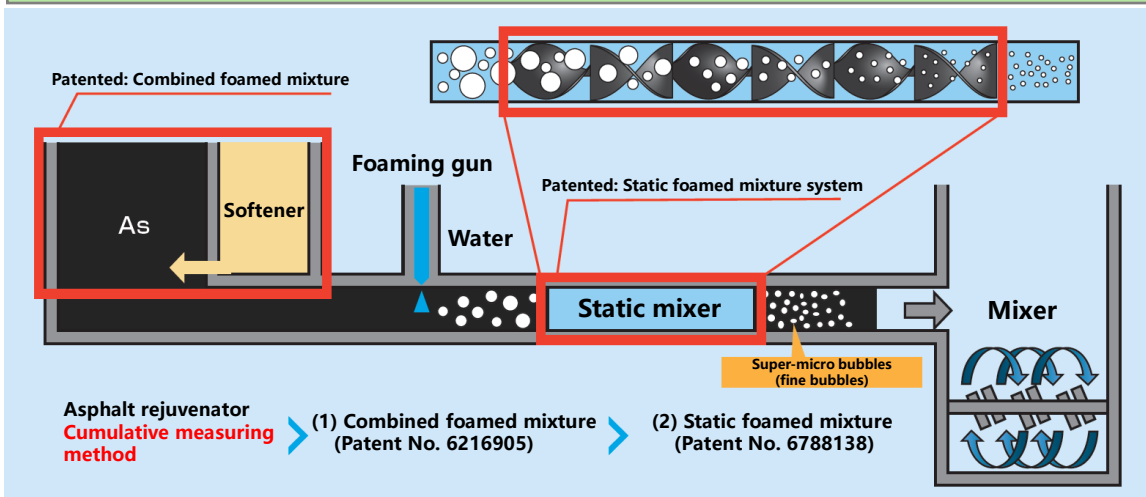
Mibble-Eco helps reduce carbon dioxide emissions by lowering shipping temperature and improves workability when working with mixtures whose temperature falls in winter and during long-distance transportation.



## Features

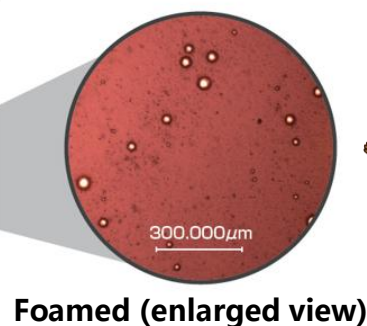
- Effective in reducing asphalt mix manufacturing temperature (**Medium-temperature asphalt mixtures**)  
Compared with ordinary hot mixtures, the manufacturing temperature can be lowered by approx. 30°C. Excellent workability and a high degree of compaction can be obtained.
- Environmentally friendly (**Reduction of carbon dioxide emissions**)  
Lowering the manufacturing temperature reduces fuel usage and carbon dioxide emissions.
- Long-distance transportation is possible! (**Improved workability**)  
Mibble-Eco mixtures can be shipped at ordinary temperature and transported over a long distance because they are easy to work with even at lower temperatures.

## Mibble-Eco manufacturing system



Mibble-Eco uses our two patented technologies:

- ① Combined foaming (combined foamed mixture)
  - Technology to foam a mixture of asphalt and rejuvenator in one step
  - Greater effectiveness of the foamed mixture by increasing the quantity of the foamed binder
- ② Static foaming (static foamed mixture)
  - Technology to produce fine bubbles from the bubbles produced with a standard foaming device
  - Technology to achieve a longer-lasting foaming effect by utilizing fine bubbles, which are more robust than larger bubbles



# Hydraulic Cold Asphalt Mixture α mix

Enrobé bitumineux à froid qui se solidifie  
au contact de l'eau  
α mix



## Overview



The α mix, an asphalt paving material that solidifies by reacting with water, can be applied and compacted even if the area to be repaved has puddles of water.

## Features

### **Quick-setting! - Quick repairs even by non-skilled workers!** **Repaired sections can be opened immediately!**

The α mix solidifies quickly upon contact with water, so repairs can be carried out whenever necessary. The repaired sections can be opened to traffic immediately.

### **Hard! - Repairs can be made in wet weather!**

Since the α mix solidifies by reacting with water, it can be applied even in wet weather.

### **Strong! - As durable as hot mixes!**

Pavement strength comparable to that of hot asphalt mixtures can be attained in a short period of time, so it can be used to repair arterial highways and expressways.



Available in 20 kg/10 kg/5 kg bags

## Construction procedure

### ① Preparation



If the area to be repaved is dry, sprinkle a sufficient amount of water in advance.

### ② Filling the material



### ③ Spreading



### ④ Sprinkling water



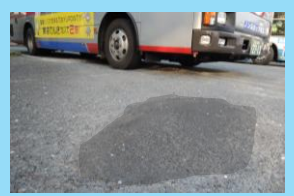
Level the spread material and sprinkle water before compaction. (Sprinkle water until water begins to spill out of the area to be repaved.)  
\* Rule of thumb: not less than 1 L/10 kg

### ⑤ Compaction



Using the back face of the shovel or stepping on the repair area is enough.

### ⑥ Completed



The repaired area can be opened to traffic immediately.

## Comparison of stability

As shown here, a comparison of the standard Marshall stability shows that the α mix is comparable to or better than typical hot asphalt mixtures in terms of stability.

