

# Bioasphalt Mixture

## Relaxphalt HT Pavement

Enrobé Bioasphalte  
Revêtement HT en Relaxphalt

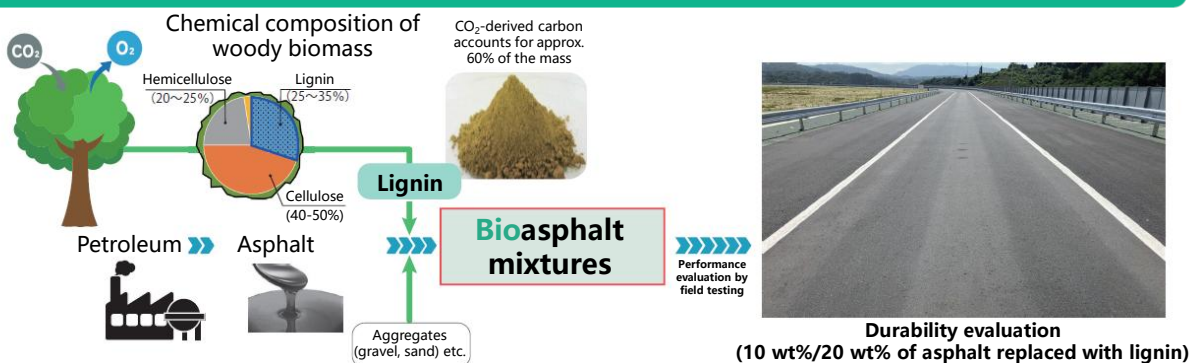


### Bioasphalt mixtures

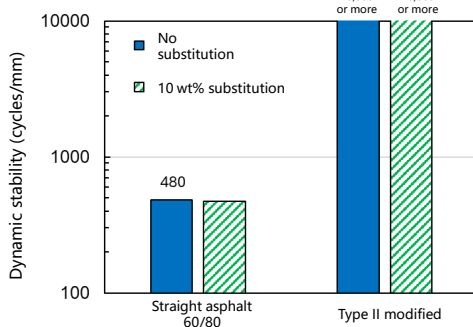
Bioasphalt mixtures are a carbon-neutral asphalt paving material that utilizes lignin, a component of woody biomass. Accounting for approx. 30% of woody biomass, lignin contains an abundance of CO<sub>2</sub>-derived carbon (C). By using lignin as a raw material for asphalt mixtures, carbon can be fixed in asphalt pavements to indirectly reduce carbon dioxide in the atmosphere.

#### Features

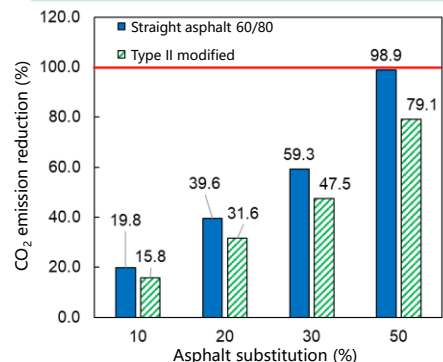
- In response to the growing calls to transition to carbon-neutral and petroleum-free pavements, lignin is utilized as a **partial substitute for petroleum asphalt, which is used as a paving material, in order to reduce CO<sub>2</sub> emissions and make efficient use of resources.**
- In the process of photosynthesis, 1 ton of lignin can fix 2.2 tons of CO<sub>2</sub>-derived carbon. By **replacing 20 wt% of the mass of asphalt with lignin, CO<sub>2</sub> can be reduced by approx. 40%.**



#### Example of laboratory test results



#### CO<sub>2</sub> emission reduced at the manufacturing stage



\* CO<sub>2</sub> emission intensity of lignin  
Extracted: 330 kg-CO<sub>2</sub> Fixed: -2,298 kg-CO<sub>2</sub>

### Relaxphalt HT pavement

Relaxphalt HT pavement is a long-life pavement that can reduce cracking and rutting significantly over a long period of time by using Relaxphalt HT as an asphalt mixture component.

#### Features

- Reflection cracking** from the underlying pavement during overlay paving work **can be reduced significantly.**
- Low-temperature cracking** is reduced in winter, and **flow rutting** is reduced at high temperatures in summer.
- During pavement maintenance and repair, **crack control sheeting** is not needed over existing pavements.



#### Application examples (cut and overlay, prefectural road in Kumamoto)



Relaxphalt HT pavement reduces life-cycle costs because their service life is 1.5 to 3 times longer than that of conventional asphalt pavements.

#### Suitable for the following applications:

- Cut-and-overlay work of concrete pavement slabs and asphalt pavement slabs that have joints or cracks
- Asphalt pavement (new/existing) in snowy and cold regions where thermal cracking is likely to occur
- Paved roads (new/existing) requiring a longer repair cycle or longer service life, such as heavy-traffic roads

#### Pavement structure

