PET Asphalt Concrete Series

Série PET Asphalt Concrete

Resilience

CO_2

Wait—can waste PET bottles really make pavement stronger?

Giving new value to discarded PET bottles while strengthening roads

PET Asphalt Concrete Series

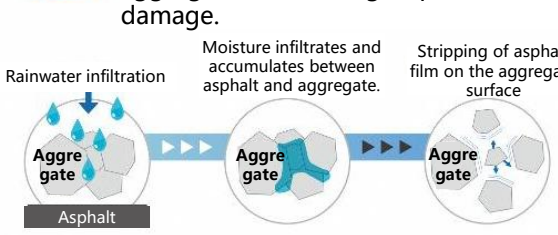
Let me explain. **Current challenges of waste PET bottles**

PET bottles that are difficult to reuse

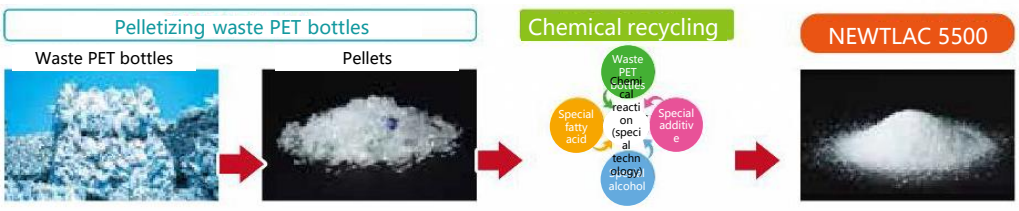
The bottle-to-bottle recycling rate is only 33.7%.

Let me explain. **Weaknesses of conventional pavement**

Water infiltrates and accumulates between asphalt and aggregate, causing the asphalt film to strip from the aggregate and leading to pavement damage.

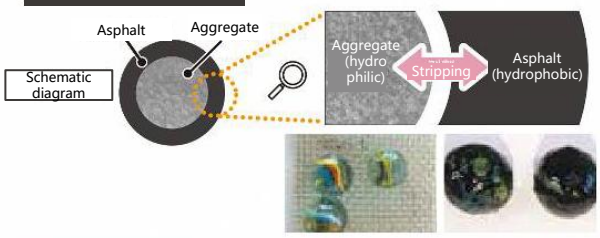


To address both issues simultaneously, a new asphalt additive (NEWTLAC) was developed that uses waste PET bottles to enhance pavement strength.



Stripping Test was conducted to evaluate aggregate–asphalt adhesion. To clearly observe the effect of NEWTLAC on chemical bonding, the influence of coarse aggregate surface roughness was minimized by substituting the coarse aggregate with smooth glass beads that have no surface irregularities and a chemical composition similar to that of conventional aggregates (silicon dioxide: SiO_2).

Dense graded type II



Under the test conditions for improved dense graded type II, asphalt film stripping was observed after water immersion, with areas of the glass bead surface exposed.

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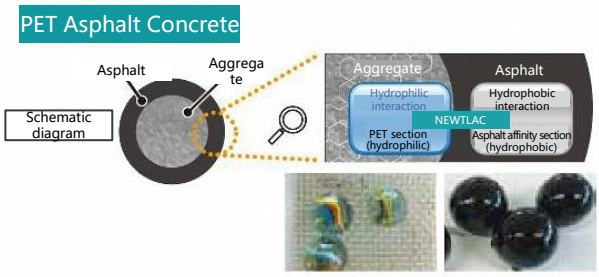

With the addition of NEWTLAC, no asphalt film stripping was observed even after water immersion, and a uniform coating was maintained. This indicates that NEWTLAC enhances the water resistance of the asphalt film.

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