

R&D of the Ministry of SMEs and Startups, Republic of Korea

Development of Smart Plant Technology for Process Quality Improvement of Eco-friendly Asphalt Mixtures

Necessity and Principle of a Plant-type Asphalt Binder Mixer



<Cracking>



<Pothole>

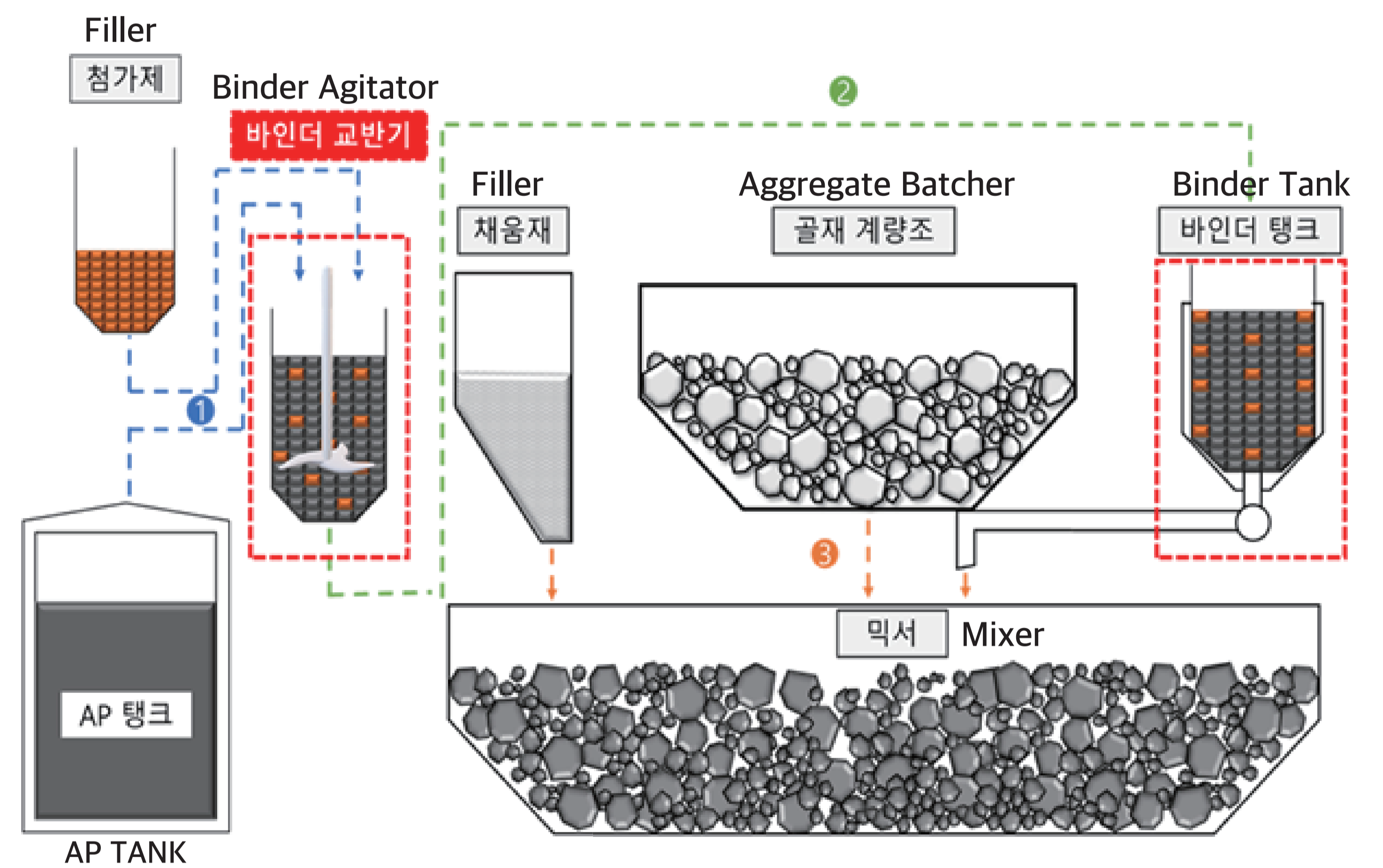


<Plastic Deformation>



<Traffic Accidents Caused by Potholes>

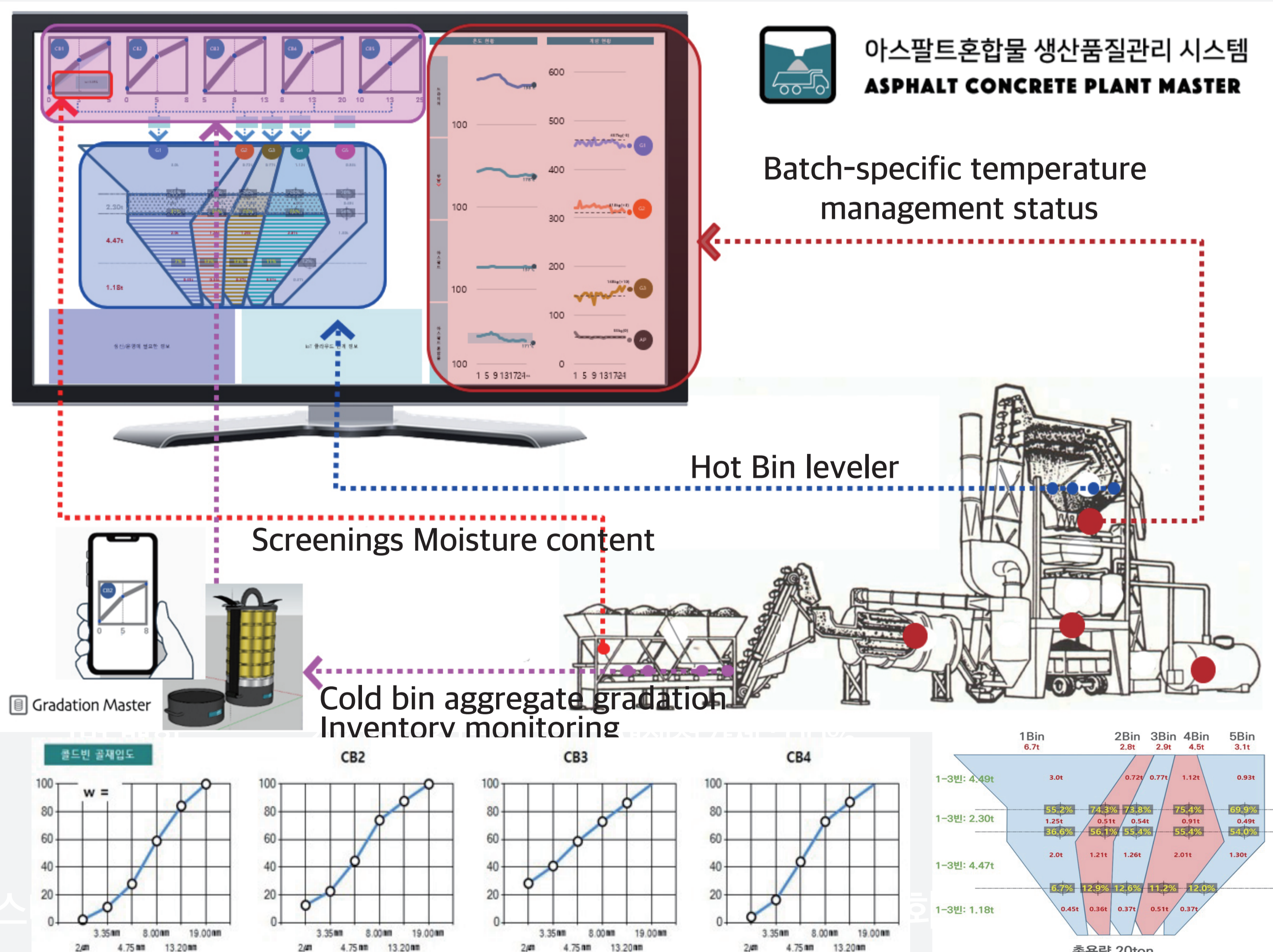
- Increased Risk of Cracks and Damage Due to Uneven Dispersion of Additives
- Issues Arising from Traffic Accidents Due to Deformation in Certain Road Sections:



1. Adding AP and Additives into the Binder Agitator
2. Transferring Agitated Binder to the Binder Tank
3. Mixing Aggregates, Filler, and Binder in a Mixer

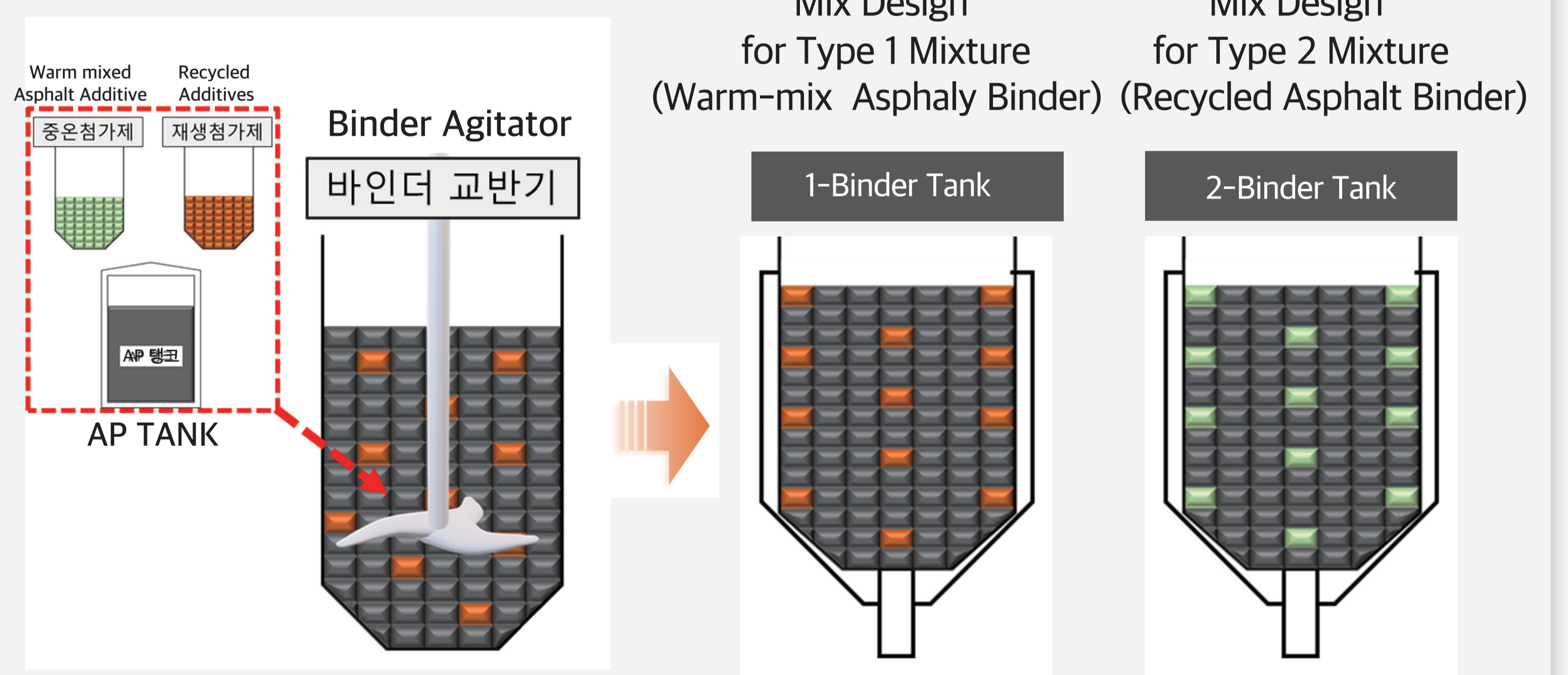
Establishing a Smart Plant System

Smart Plant System: Automation of Mix Design Conditions Based on Production Products



- Establishing a Mixing Time and Speed Control System Based on Additive Types
- Establishing a Setting System for Asphalt Binder Usage Based on Types of Eco-Friendly Asphalt Mixes

Smart Plant System: Operation of Binder Agitator



Additive Injection and Asphalt Binder Production Based on Mixture Type

Examples of Storing Manufactured Asphalt Binder

- Automatic Production of Asphalt Binder Through Mixer Control System
- Enhancing Production Speed of Asphalt Mixtures Through Mixer Control System