

Busan Port's Recycling of Aggregates for Construction

Turning waste into resources in the port sector

As our population continues to expand at high rates, concern over resources is a global topic. Busan is spearheading resource optimization and recycling within the maritime industry with its recycling of aggregates across multiple construction projects.

This initiative sees the 100% recycling of construction waste for the first ever time in the port sector in Korea.

The construction of Busan New Port and the redevelopment of Busan North Port demand the use of massive amounts of aggregates like gravel, sand, and crushed concrete, across a total area of 13 million square meters. The continual mining of natural resources was not a viable option, and so Busan Port embarked on the first initiative of its kind in the nation to ensure that only recycled aggregates are in use.

Because this project was the first of its kind, there was no established governing body to regulate the use of recycled aggregates in construction. Busan Port worked with local entities, such as waste management companies and the Korean Recycled Construction Resources Association, to establish agreements and guidelines on how to both promote and regulate the practice. Quality management of aggregates used is of utmost importance to Busan Port.

The construction project uses recycled aggregates and recycled aggregate products across six, massive construction sites, including the New Port container terminal, the port's industrial park, and the site of the North Port redevelopment site. A total of 174,892 m³ (279,827 tons) of recycled aggregates and recycled asphalt concrete have been used.

This use of recycled aggregate is expected to have saved approximately 3 million USD in resource and construction costs, preserved 280,000 tons of natural aggregates, and a reduction of 6,570 tons of carbon dioxide, equivalent to planting over 1 million trees.

Due to the success of this initiative, construction at phase 1 of Jinhae Port plans to use 40% recycled aggregates, and there are plans to formally establish criteria for additional port construction projects that could utilise this eco-friendly method.

Busan Port is proud to be leading resource circulation-driven port construction.