Practical Application of PCa with Super-High Durability Concrete

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R&D Objectives and Subjects

Objectives

In order to extend the lifespan of damaged bridges and to shorten the period of traffic regulation during renewal construction, a precast concrete member with high durability has been developed with blast furnace slag

- PC (Pre-stressed Concrete) PCa member
- ⇒ Durable to traffic load under water supply conditions
- RC (Reinforced Concrete) PCa member
- ⇒ High resistance to freezing and thawing without AE agent

Subjects

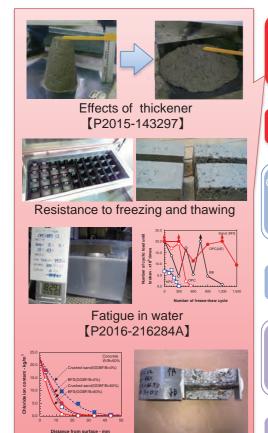
Publication of the guidelines for the manufacturing of highly durable PCa members with blast furnace slag sand, and construction with it on a site.

- Clarification of the mechanism of blast furnace slag sand to improve the durability of concrete
- Establishment of a supplying system for the blast furnace slag sand in the domestic precast factories
- Establishment of the inspection and quality control system to manufacture the reliable products



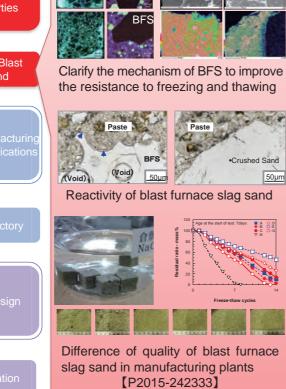


Current Accomplishments (1/2)

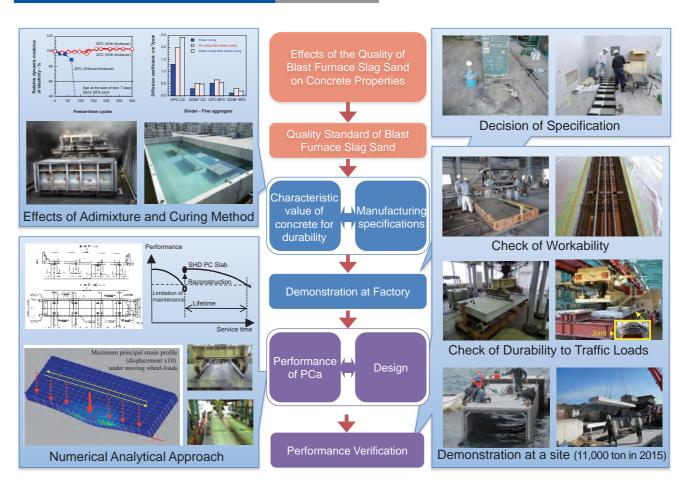


Performance to protect against the rusting of steel





Current Accomplishments (2/2)



Goals

1 BFS for Highly Durable Concrete



- Establishment of a Quality Standard of BFS
- Supplying system of BFS in Domestic Areas

2 PC PCa Products

The characteristics of products are as follows;

- High resistance against freezing and thawing attack, and fatigue in water
- The losses of pre-stress is low by small shrinkage and creep of concrete





3 RC PCa Products

The characteristics of products are as follows:

- High resistance to freezing and thawing attacks without an AE Agent
- High resistance to chloride attacks







