1. Development of a Concrete Placement Management System and Use at a Construction Site

Tetsuya Hironaka, Takahiro Saito, Katsuhiko Imaizumi, Atsushi Takao

We developed a concrete placement management system that ensures the quality of concrete structures and streamlines the management of placement tasks. This system applies a construction information model (CIM) that incorporates information on transportation, placement and layering of concrete, monitoring technologies, and cloud services, allowing the sharing, real-time visualization, and central management, from planning to implementation, of all construction information. Applying this system to a construction site reduced standby times for concrete agitator trucks, eliminated cold joints and quality problems associated with changes in concrete over time, and enabled compliance with layering time limits. It also made casting planning, concrete transportation management, casting and layering, document preparation, and other casting management tasks more efficient. By handling and storing construction information in digital format, this management system also ensures the traceability of construction tasks.

Keywords: construction information modeling, monitoring technology, cloud service, transportation management, placement management