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Research on the Calculation Method of Smartization Rate of Concrete Structure Building Construction

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Abstract : In the context of China's promotion of smart construction and building industrialization, there is a need for evaluation standards for the development of building industrialization based on assembly-type construction. However, the evaluation of smart construction remains a challenge in the industry's development process. This paper addresses this issue by proposing a calculation and evaluation method for the smartization rate of concrete structure building construction. The study focuses on examining the factors of smart equipment application and their impact on costs throughout the process of smart construction design, production, transfer, and construction. Based on this analysis, the paper presents an evaluation method for the smartization rate based on components. Furthermore, it introduces calculation methods for assessing the smartization rate of buildings. The paper also suggests a rapid calculation method for determining the smartization rate using Building Information Modeling (BIM) and information expression technology. The proposed research provides a foundation for the swift calculation of the smartization rate based on BIM and information technology. Ultimately, it aims to promote the development of smart construction and the construction of high-quality buildings in China.

Keywords : building industrialization, high quality building, smart construction, smartization rate, component
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