

ABSTRACT

Provided is a method for controlling work performance of fresh concrete based on regulation and control of a pouring construction performance objective, including the following steps: step (1) carrying out a time-dependent test on work performance of fresh concrete under various working conditions to obtain time-varying data of the work performance of the concrete; step (2) building a time-varying model for the work performance of the concrete based on different working conditions; and step (3) according to the different working conditions and a work performance control indicator of a construction node, determining relevant parameters of the time-varying model for the work performance of the concrete, and calculating a work performance control indicator of the fresh concrete. The method can realize the control on the work performance of the construction node for the concrete, takes into account a time-dependent changing rule of the work performance of the concrete under different environmental conditions, and overcomes the defect of an unstable state of the concrete during construction due to the fact that a conventional method takes work performance of fresh concrete of mixing and discharging nodes as a control base point and does not quantitatively characterize and take into account time-varying fluctuation of the work performance.