

Temperature profile predicting model for mass concrete

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ABSTRACT

Predicting the temperature history of mass concrete can provide a way to mitigate the premature cracking and serviceability improvement accordingly. However, the calculation requires the measurement of adiabatic temperature rise of big-sized samples, so the actual test is limited to a small number of candidates. This paper presented a simple and practical model for computing the adiabatic temperature rise of concrete based on the isothermal calorimetry of its binder. The model is verified by comparing the prediction results with the measurements. The model was used to predict the temperature profile of a mass concrete using the data of isothermal calorimetry.

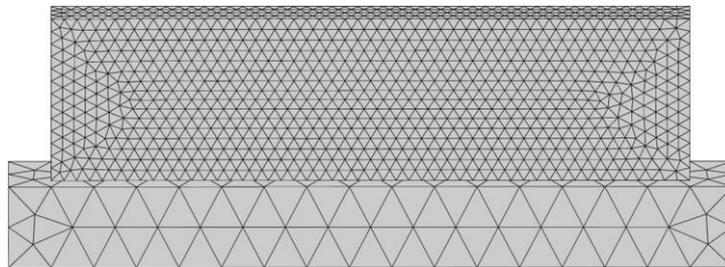


Fig. 1 Computational meshes for concrete wall

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