



DOWNLOAD



Hybrid Finite Elements for Cement Hydration

By Pham, Tien Cuong

Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | The book presents a hybrid finite element formulation for modelling of cement hydration in concrete structures. First, a hybrid formulation of the finite element method is developed for the solution of heat transfer problems. Second, the hybrid model is used to simulate the thermo-chemical response of ordinary Portland cement concrete using the hydration degree concept. The hybrid formulation is extended to include the simulation of the effect of the heat source and to approximate directly the hydration degree field. Third, the hybrid model is extended to simulate the coupled processes of heat transfer and moisture transport in concrete. Two fields are approximated in the domain of the element (temperature and relative humidity) and on the boundaries (heat and moisture fluxes). The model can be used to simulate the hygro-thermo-chemical response of both hardening and hardened concrete and is valid for normal strength concrete and high-performance concrete. Attention is paid to the simulation of the boundary conditions that occur in practical applications. Special attention is also paid to preserving the computational advantages offered by hybrid finite element formulations. | Format: Paperback | Language/Sprache: english | 180 pp.



READ ONLINE
[8.17 MB]

Reviews

This ebook is wonderful. I have got go through and so i am certain that i am going to likely to read through once again again later on. You will like the way the article writer compose this ebook.

-- Miss Ariane Mratz

This pdf will not be simple to start on reading through but extremely enjoyable to see. I have read and i also am sure that i will planning to read through again once more in the foreseeable future. You wont really feel monotony at whenever you want of the time (that's what catalogues are for relating to if you request me).

-- Mallory Kertzmann V