

AdmixtureIV/Property generalI

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[1040] Microstructural evolution of hardened limestone calcined clay cement paste during first drying

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The pore structures of Ordinary Portland Cement (OPC) and Limestone Calcined Clay Cement (LC3) were compared using ¹H Nuclear Magnetic Resonance. The chemical insight into C-(A)-S-H structure have been provided by Fourier transform infrared spectrometry. The results indicate that LC3 has a larger interlayer and gel pore width than OPC. A significant change in pore structure occurs when the relative humidity (RH) drops to about 33% for both OPC and LC3. RH exerts different effects on OPC and LC3, which can be attributed to a more loose stacking of C-(A)-S-H layers in LC3 after aluminum intake.