CAC's from Different Global Sources

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CAC is highly used materials for refractory concretes and in the building industry, because of rapid hardening, high early strength, resistance to attack by acids and abrasion. Nowadays everywhere in the world CAC's are produced with different compositions. Therefore it is highly necessary to characterize and compare these cementitious materials.

The properties of eleven different global CAC's are compared by chemical composition, phase composition, quantitative phase analysis and hydration using XRD, XRF, SEM, EDX, BSE, selective dissolutions, Fe^{2+}-determinations and heat flow calorimetry.

It is shown that a wide variety in compositions, phase concentrations and properties are obtained. The following phases could be proofed: CA, CA_2, $C_{12}A_7$, C_2AS, C_4AF, C_3FT, Perowskite, Pleochroite, Mg- and Fe-Spinel, TiO_2, β-C_2S, Wuestite, Maghemite, Oldhamite, Anhydrite, Kuzelite, Yeelimite and Carbon.