

C-THERM TECHNICAL LIBRARY**ITEM#:** JBN-01042013-001**TITLE:** Chemical retreating for gel-typed aerogel and insulation performance of cement containing aerogel**AUTHOR(S):** Sugwhan Kim, Jungki Seo, Junghoon Cha, Sumin Kim**PUBLICATION:** Construction and Building Materials**DATE:** January 2013**KEYWORD(S):** aerogel, gel-typed aerogel, chemical stability, physical stability, thermal conductivity**WEB LINK:** [Click Here for Full Article](#)**SUMMARY:** [C-Therm TCi Thermal Conductivity Analyzer](#) applied in the testing of the thermal behavior of cement aerogel composites.

This research identified the possibility of application as an insulation building material by mixing aerogels with the cement paste as well as their thermal performance. The aerogel is a very stable material against water because of their skeleton's characteristics, so that re-treatment of aerogel had to be preceded before mixing with cement pastes. Chemical and physical stability caused by the re-treatment of aerogel in the cured cement were confirmed by Fourier transform infrared spectroscopy (FT-IR) and scanning electron microscope (SEM). Moreover, thermal conductivity of aerogel cement was 0.135 W/m K which is 75% of aerogel-free cement's thermal conductivity, 0.533 W/m K.

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