Supplementary material

Distribution of carbon nanotubes in fresh ordinary Portland cement pastes: understanding from a two-phase perspective

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Calculation of specific extinction coefficient

To determine $\varepsilon$, the suspension with $C_t = 0.0026$ wt% and surfactant concentration was prepared and diluted with factors of 2, 3, 4, 5. These suspensions were subjected to ultrasonication until their ABS reaches the maximum. With such low $C_t$, sufficient surfactant and ultrasonication, the CNTs in these suspensions are regarded as fully dispersed. To obtain $\varepsilon$ in the unit of ml mg⁻¹ cm⁻¹, the measured ABS was then plotted against CNT concentration, $c$ (mg/ml), in Figure S1. The data was fitted with a function of $\text{ABS} = \varepsilon l c$, where $l = 1$ cm is the path length of the UV cuvette. $\varepsilon$ is found to be 50 ml mg⁻¹ cm⁻¹ as shown in Figure S1.

Figure S1, ABS vs CNT concentration ($c$) and the fitted linear relationship (dashline).