

Effect of water-binder ratio on properties of self-compacting concrete containing palm oil fuel ash

ABSTRACT

This paper presents experimental results of the fresh and hardened properties of self-compacting concrete (SCC) with palm oil fuel ash (POFA). In this study, four SCC mixes with 0% (control), 10%, 20% and 30% of POFA having different water-binder ratio (w/b) ratios of 0.45, 0.50, and 0.55 were prepared. The tests performed in the study include filling ability, passing ability, segregation resistance, and compressive strength of the SCC. The fresh properties of the concrete mixes fulfilled the acceptance criteria of the SCC by EGSCC (2005). Meanwhile, the w/b ratio had significant influence on the compressive strength of SCC containing POFA. Lastly, compressive strength of SCC decreases as the replacement level of POFA increases.