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# Investigation on microstructure and microstructural elastic properties of mortar incorporating fly ash

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## Abstract

Fly ash has been widely used to replace Portland cement in cementitious composites like mortar, due to the economic and ecological benefits. Although the influence of fly ash on the microstructures of mortar has been studied for many years, the fundamental knowledge on the microstructural elastic properties of fly ash blended mortar, as well as the link between the microstructures and microstructural elastic properties are still scarce. Therefore, this work aims to investigate the microstructures and microstructural elastic properties of fly ash blended mortar by a coupled nanoindentation and scanning electron microscope method. Through this work, the microstructural elastic properties of the main phases present in fly ash blended mortar were reported. The influences of fly ash on the microstructural elastic properties of

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