Patent Search

Invention Title	HIGH-PERFORMANCE MORTAR AND BLENDED CEMENT COMPOSITION AND METHODS FOR THEIR PREPARATION
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Abstract:

The present invention discloses a high-performance mortar and blended cement composition and methods for their preparation. The composition comprises Ordina Cement, one or more supplementary cementitious materials, coal extracted fly ash present in an amount of 10 to 35% of the total mass of the composition, and marl present in an amount of 5 to 20% of the total mass of the composition. The resulting mortar composition exhibits a compressive strength of 34-38 MPa, while the ble cement composition shows a compressive strength of 36.28 MPa and a reduced water-cement ratio compared to conventional cement compositions. Supplementary cementitious materials may include silica fume, ground granulated blast furnace slag, or metakaolin. The fly ash is derived from the combustion of pulverized coal in power plants, while the marble powder is obtained from waste generated during marble cutting and processing. The inventive method includes steps of preparing a paste, incorporating fly ash and marble powder, and allowing the mixture to set and harden..

Complete Specification

8. A blended cement composition comprising:
a) Ordinary Portland Cement;
b) One or more supplementary cementitious materials;
c) Coal extracted Fly Ash, present in an amount of 10 to 35% of the total mass of the composition;
d) Marble powder, present in an amount of 5 to 20% of the total mass of the composition; wherein the composition exhibits a compressive strength of 36.28 MPa reduced water cement ratio compared to conventional cement compositions.

9. The blended cement composition of claim 8, wherein the one or more supplementary cementitious materials comprise one or more of silica fume, ground grar blast furnace slag, or metakaolin.
10. The blended cement composition of claim 8, wherein the coal extracted Fly Ash is obtained from the combustion of pulverized coal in thermal power plants..

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