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Patent Search

Invention Title	METHOD FOR PREPARATION OF SUSTAINABLE TERNARY BLENDED CONCRETE USING SILICA FUME AND ZEOLITE
Publication Number	47/2024
Publication Date	22/11/2024
Publication Type	INA
Application Number	202441088674
Application Filing Date	16/11/2024
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	CHEMICAL
Classification (IPC)	C04B0018140000, G01N0033380000, B81C0001000000, C04B0040000000, C07K0007080000

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Abstract:

METHOD FOR PREPARATION OF SUSTAINABLE TERNARY BLENDED CONCRETE USING SILICA FUME AND ZEOLITE The present invention provides a sustainable and efficient method for preparing ternary blended concrete using silica fume and zeolite. This method optimizes the properties of concrete while reducing its environmental footprint offering significant advantages in terms of performance, durability, and cost-effectiveness. The concrete exhibits improved resistance to chemical attack, reduced permeability and enhanced mechanical properties compared to conventional concrete.

Complete Specification

Description:4. DESCRIPTION

Technical Field of the invention

The present invention relates to a method for preparing a sustainable ternary blended concrete, particularly for construction applications, which incorporates silica and zeolite as supplementary cementitious materials (SCMs) to enhance the mechanical properties, durability, and environmental sustainability of concrete. This method improves the performance of traditional Portland cement-based concrete by reducing the carbon footprint and utilizing industrial by-products, thus contributing to friendly building practices.

Background of the invention

Concrete is one of the most widely used construction materials in the world, but its production is responsible for significant environmental impact, primarily due to high CO₂ emissions associated with the manufacture of Portland cement. Various efforts have been made to reduce the environmental footprint of concrete by using supplementary cementitious materials (SCMs), such as fly ash, slag, and silica fume.

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Page last updated on: 26/06/2019