An innovative material of fiber low-cement and cementless composite for building Industry

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The carbon dioxide (CO_2) emission during a manufacturing process of the ordinary Portland cement is up to about 7.0 % of global manmade CO_2. In order to improve the material and mechanical characteristics of concrete and cement-based material, an innovative near-environmental material of fiber-reinforced low-cement and cementless composites has been manufactured. The low-cement or cementless composites were manufactured by replacing 60% of the amount of cement with ground granulated blast-furnace slag with or without using alkali activators or replacing with fly ash. Short synthetic fibers were mixed in the composite binders in order to improve the brittle tensile behaviour after cracks were taken place. In the evaluation of the flow and mechanical characteristics of the composites, a series of experiments has been conducted on slump flow, compressive strength, direct tensile strain, ductile bending, and shear strength test.

Speaker Biography

Chang-Geun Cho has completed his PhD at the age of 30 years from Tokyo Institute of Technology, Japan. He is the director and professor of Chosun University, South Korea. He has over 150 publications that have been cited over 400 times and has been serving as a managing editor of the International Journal of Concrete Structures and Materials.

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