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Stabilization of laterite with rubber latex and various applications

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Avoiding the emission of greenhouse gases and air pollution related to the manufacture of clinker cement led us to consider the use of a natural binder for stabilization. Thus latex contents ranging from 0 to 30% were used to stabilize laterite specimens. These specimens were subjected to physical tests (water resistance test, absorption test) and mechanical tests (dry compression test). The results obtained indicate, on the one hand, that specimens made with latex contents less than 15% dissolve completely in water while those of 20%; 25% and 30% are water resistant. The absorption rate of the test pieces decreases as the latex content increases in the test pieces. It goes from 14.45% for specimens to 15% to 5.87% for 30% specimens. On the other hand the compression test indicates an increase in strength when the latex content increases. It goes from 0.37 MPa for latex-free specimens to 3.15 MPa for 30% specimens. Also, the study of the rheology shows that the specimens pass from a brittle behavior to a plastic behavior when the latex content increases. The behavior of the test pieces in the various tests (water resistance test, absorption test and compression test) makes it possible to envisage the use of this material in several fields including the field of construction, the road domain, space development for the sport.

Speaker Biography

EMERUWA Edjikémé is a Professor at the Universities of Felix Houphouet-Boigny-Cocody University, Ivory Coast. He obtained his doctorate in the University of Limoges, France in 1889 and completed his masters in Materials Science at University of Limoges, France and CESS in ceramics, ENSCI, Limoges, France. He is the inventor of multiple objects like one of them is SABLATEX. He is the author of 4 registered certificates OAPI industrial drawings and writer of 4 books. He was awarded with Patronat award continuously from the year 2014-2016. He received National excellence award for research results and innovation of the year 2018 and Special Jury Prize winner of the "Green Africa Booster", Yamoussoukro in June 2018.

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