

High Performance Fiber Reinforced Concrete for infrastructural retrofitting

Over the next few years, the number of Reinforced Concrete (RC) infrastructures requiring rehabilitation will rise in many Western Countries since most of these infrastructures were built between the 50's and 70's in a completely different scenario. In fact, during the last 50 years, the number of vehicles as well as the traffic loads have significantly increased and infrastructures present materials degradation and structural damages due to a weak durability. For these reasons, there is an urgent need to verify and to restore structural safety of infrastructures. The new rehabilitation technique based on Ultra High Performance Fiber Reinforce Concrete permits to satisfy the structural requirements of a retrofitting intervention on existing infrastructures, such as viaducts, bridges and building by applying a thin layer around vertical structural elements (pillars, piers, column). The main benefits of using UHPFRC solution are related to the possibility to upgrade structural elements, improving their durability with additional advantages as extension of service life and reduction of maintenance needs.