Aplicaciones de las técnicas no destructivas Pull-Off y ultrasonidos en el control de calidad del refuerzo con materiales compuestos en estructuras de concreto [

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Analítica

The reinforcement system of concrete structures using composite materials has been widely used for more than fifty years. However, there are still many unknowns regarding their longterm behavior, as the control of the bond between the concrete and the reinforcement materials being essential to ensure their quality. It is a reinforcement system that is made by adhesion, and as consequence of the uncertainty on the adhesion tension, in practice, it is solved with anchorages that make the work more expensive and which are not feasible for large areas of reinforcement. A correct installation that guarantees the proper behavior of the reinforcement materials would optimize this type of strengthening system and its applicability. The implementation of an appropriate quality control plan guarantees the optimization of the system and allows to establish the proper maintenance criteria. This research presents an experimental program for the quality control of laying, based on the study of the bond between the concrete and fiber composite sheets, taking into account different types of concrete and surface preparation techniques. An in situ quality control plan with semi-destructive pull off and non-destructive ultrasonic type tests allows verifying the effectiveness of the reinforcement
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