

DM515 Rehabilitation and Retrofitting of RC Structures

(3-0-0-6)

Course Content

Deterioration of RC Structures (i.e. buildings, bridges), Site Inspection (different guidelines). Condition assessment of RC Structures (different techniques and background theory), Non-destructive Test (working principle behind NDT evaluations to assess strength and durability etc. e.g. Rebar Locators, Rebound Hammer, Ultrasonic Pulse Velocity test, Impact Echo test), Other advanced techniques (e.g. Concrete resistivity, Chemical tests for pH, Sulphates and Chlorides, Half-cell potentiometer, Imaging techniques, GPR, Thermography, Tomography), Partial Destructive technique (i.e. Core Cutting, Pile Integrity Test, Pull off test), Overview of Operational Modal Analysis and health monitoring techniques, Different repair methodologies (i.e. removal and surface preparation, crack routing and sealing, repair of rebars and bonding with concrete, materials for retrofitting e.g. shotcreting, guniting, grouting, polymer impregnation), different structural strengthening techniques.

Text/ References

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