

**STRUCTURAL CONCRETE REPAIR
TECHNIQUES AND MATERIALS**

by

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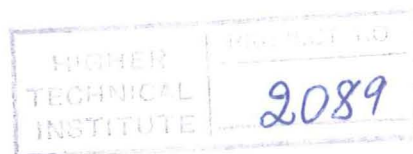
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INTRODUCTION

Concrete is a mixture of cement, sand (fine & coarse aggregates), gravel and water, under certain proportions in order to prepare concrete of different compressive strength.

Concrete in some guise has been used for thousands of years. The use of structural reinforced concrete, made with Portland cement, dates back to the middle of the last century, gaining momentum at the turn of the century and increasing sharply after the 1939-45 war, when steel was in short supply.

Reinforced concrete has been considered a highly durable structural material requiring little or no maintenance. Furthermore this durability extends to most conditions and climates. In recent years problems with all types of reinforced concrete structures have tarnished that the design, mixing placing and curing of concrete require greater attention. In many instances concrete requires protection immediately after construction.

The poor workmanship, bad quality of concrete, weather conditions, corrosion of the reinforcement, chemical attack, fire, earthquakes, and also structural reasons contribute to the defects and the damages on the structures.

In Cyprus another reason for the damages is the bad quality of material we used and especially aggregates and cements since 1974 when the Turkish invasion took place and as a consequence the building industry lost its sources of cement and aggregates in this project we are dealing with the reasons of these damages and on the types of failures which take place. We are also dealing with the techniques and the different materials used for the repair of structures that are built at from reinforced concrete.

At the end of the project we have some tests carried out on the repair materials.

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