

Training & Consultancy



# Assessment, Evaluation and Repair of Reinforced Concrete Structure

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5-7 Nov 2025

Southern Sun Hotel

Sandton

Johannesburg

## Introduction

This Assessment, Evaluation and Repair of Reinforced Concrete Structure training seminar will present the methods of inspection and evaluation of buildings and will diagnose the reason of concrete deterioration or the corrosion of the steel bars to develop preventive maintenance program. The causes of structure deterioration will be discussed in deeply and concentrate on the reason of corrosion and new protection methods to the steel bars. The repair of the reinforced concrete structures recently developed by using new materials will be discussed theoretically and practically, its advantages and disadvantages and how to use the suitable method

The assessment of the reinforced concrete structure is now a main challenge to the civil engineer. The repair of the reinforced concrete structures has developed in the recent years due to the new technology of the materials and the techniques of maintenance and repair.

The preventive maintenance strategy with its target and plan in scope of economic point of view will be illustrated in this Civil & Construction Engineering training seminar, as well as the background of the new software used in the area maintenance management system. Risk based inspection technique will be presented in this training seminar in scope of likelihood of building failure, consequences of failure and the building risk matrix.

**This training seminar will feature:**

- Assessment and evaluation technique for concrete and steel structures
- The importance of inspection and testing activity
- Applying the inspection and testing in many construction areas
- Focusing on practical and theoretical ways of inspection
- How to integrate new inspection technique into the work domain?

## Objectives

**By the end of this training course, participants will be familiar with:**

- Testing and inspection techniques of engineering materials
- Workmanship in building construction
- NDE for the steel and welding
- The capability to inspect the finishing work activity
- Testing and inspection for road construction
- The ways and skills for the inspector

## Training Methodology

This Assessment, Evaluation and Repair of Reinforced Concrete Structure training seminar will utilize a variety of proven adult learning techniques to ensure maximum understanding, comprehension and retention of the information presented. The daily workshops will be highly interactive and participative. Videos and photos will be used for illustration.

## Organisational Impact

- Improve the maintenance cost by enhancing the engineering review process
- Improve the maintenance cost by enhancing the construction and materials selection process
- Reduce the maintenance cost by using new approach for structure assessment
- Increase the structure capital investment by increasing its life time
- Improve the organization investment by providing a durable structure by better design, construction or maintenance

## Personal Impact

- Enhance the skills of inspection of the trainee
- Increase knowledge of up to date of execution phase
- Increase the skill for maintenance approach
- Increase the skill to design CFRP

## Who Should Attend?

**This training course is suitable to a wide range of professionals:**

- Architects
- Engineers
- Practicing Building Construction Inspectors
- Project Engineers
- Technicians and Technologists involved with building maintenance
- Contractors and Building Owners

# Seminar Outline

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## DAY 1

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### Building Assessment

- Introduction to Mature Structure
- Codes and Standard Deficiency
- Inspection and Evaluate the Buildings
- Methods of Inspection
- Visual Inspection Criteria
- Inspect the Building using New Techniques
- Using Ultrasonic and Infrared for Inspection
- Evaluate the Building Risk
- Diagnoses the Reason of Deterioration
- Workshop: Define the Cracks Types
- Workshop: Cracks in Miscellaneous Foundations

### Problems in Design, Materials and Construction

- Concrete Materials Problems
- Construction Ways Affect Concrete Durability
- Design Error Affect Structure Integrity
- Corrosion and Protection of Steel Structure in Concrete
- Protection of Reinforcing Bars
- Define the Method of Repair
- Videos Presenting a Repair Methods
- From Inspection and Analysis Predict the Structure Lifetime

## DAY 2

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### Properties of Protective Coating

- Precaution during Repair
- Selecting the Materials Repair
- Step by Step Repair Procedure
- Methods of Protection
- Cathodic Protection
- Comparison between Different Type of Protection
  - Evaluate the Current Protective Coating
  - Types of Protective Coating
  - Properties of Each Type
- Precautions in Using the Coating

### Methods Of Repairing The Cracked Structure Corrosion

- Types of Cracks in R. C. Structures
- Comparison between Different Cracks
- Reasons for Each Type
- Methods of Repair and Prevent for Each Type
- Materials using to Repair Corroded Structure
- Methods of Repair
- Using Polymer Bonding Materials
- Types of Polymer
- Properties of these Materials
- Ways of Using Steel Sections in Repair

## DAY 3

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### Maintenance Strategy

- CFRP Design
- CFRP Applications
- Likelihood of Building Failure
- Define Consequences of Failure
- Provide Risk Matrix
- Risk Based Inspection (RBI)
- Maintenance Plan and Strategy
- Maintenance Plan based Economic Cost
- Preparing Priority Lists
- Software for Maintenance Strategy
- Case Study

# Assessment, Evaluation and Repair of Reinforced Concrete Structure

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Code	Date	Venue	Fees
	5-7 November 2025	Sandton	R 6,999

## REGISTRATION DETAILS

LAST NAME: \_\_\_\_\_  
FIRST NAME: \_\_\_\_\_  
DESIGNATION: \_\_\_\_\_  
COMPANY: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
\_\_\_\_\_  
CITY: \_\_\_\_\_  
COUNTRY: \_\_\_\_\_  
TELEPHONE: \_\_\_\_\_  
MOBILE: \_\_\_\_\_  
FAX: \_\_\_\_\_  
EMAIL: \_\_\_\_\_

## AUTHORISATION DETAILS

AUTHORISED BY: \_\_\_\_\_  
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DESIGNATION: \_\_\_\_\_  
COMPANY: \_\_\_\_\_  
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FAX: \_\_\_\_\_  
EMAIL: \_\_\_\_\_

## PAYMENT DETAILS

Please invoice my company

Please invoice me

## CERTIFICATION

Successful participants will receive Certificate of Completion

## 4 WAYS TO REGISTER

Tel: + 27 87 808 2509

Fax: + 27 73 882 2609

Email: [info@buildersquarterly.co.za](mailto:info@buildersquarterly.co.za)

Website: [www.buildersquarterly.co.za](http://www.buildersquarterly.co.za)

## TERMS AND CONDITIONS

- Fees - Each fee is inclusive of Documentation, Lunch and refreshments served during the entire seminar.
- Mode of Payment - The delegate has the option to pay the course fee directly or request to send an invoice to his/her company/ sponsor. Credit card and cheque payments are both acceptable.
- Cancellation / Substitution - Request for seminar cancellation must be made in writing & received three (3) weeks prior to the seminar date. A 50 % processing fee will be charged per delegate for each cancellation. Thereafter, we regret that we are unable to refund any fees due, although in such cases we would be happy to welcome a colleague who would substitute for you.
- Hotel Accommodation - is not included in the course fee. A reduced corporate rate and a limited number of rooms may be available for attendees wishing to stay at the hotel venue. Requests for hotel reservations should be made at least three (3) weeks prior to the commencement of the seminar. All hotel accommodation is strictly subject to availability and terms and conditions imposed by the hotel will apply.
- Attendance Certificate - a certificate of attendance will only be awarded to those delegates who successfully completed/ attended the entire seminar including the awarding of applicable Continuing Professional Education Units/Hours.
- Force Majeure - any circumstances beyond the control of the Company may necessitate postponement, change of seminar venue or substitution of assigned instructor. The Company reserves the right to exercise this clause and implement such amendments.
- Fair Access / Equal Opportunities - In the provision of its services as a world-class Training Provider, the Company is committed to provide fair access / equal opportunities throughout the delivery of its courses and assessment leading to the completion of training seminars, or 3rd party qualifications/certifications.

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