



Indian Concrete Institute

Chennai Centre



SRM
INSTITUTE OF SCIENCE & TECHNOLOGY
(Deemed to be University u/s 3 of UGC Act, 1956)

Indian Concrete Institute Chennai Centre

in association with

Indian Institute of Technology Madras

&

SRM Institute of Science and Technology

invites you cordially to

Two - Day Interactive Seminar on

**DESIGN AND CONSTRUCTION
OF REINFORCED CONCRETE STRUCTURES:
NEW DIRECTIONS**

13 and 14 March 2026

**IITM Alumni Centre, (10th Floor, C Block), IIT Madras Research Park
Taramani, Chennai**



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Seminar Overview

The seminar is designed to bridge the gap between concepts of concrete technology and field-level execution. It focuses on the triad of modern construction: **Performance** (meeting strength requirements), **Durability** (ensuring service life), and **Evaluation** (assessing health and integrity). This seminar is aimed to provide insights into revision of IS 456 which now addresses Safety, Serviceability, Durability, Robustness, Integrity, and Restorability, beyond just the conventional strength and serviceability approach.

Participants will be exposed to link material design, testing, and performance-based specifications to ensure long-term service life of concrete structures in aggressive environments. Modern infrastructure demands more than just strength; it requires resilience and sustainability. This will see the mechanisms that govern concrete behavior, explore advanced durability strategies, and learn the latest techniques for structural health assessment. The seminar will close with lifecycle of concrete from its initial design to its long-term health and assessment.



Workshop Highlights:

IS 456 Revision

New Design Strategy : Moving beyond just safety and serviceability to six core criteria: Safety, Serviceability, Durability, Robustness, Integrity, and Restorability

Merging IS 1343 into IS 456



High-Performance Concrete (HPC) & Mix Design –

The Science of Microstructure: Understanding the Interfacial Transition Zone

Next-Gen Additives: The role of SCMs in enhancing performance

Rheology and Workability: Optimizing mix designs for ease of placement without compromising integrity



Durability and Service Life Design

Corrosion Control: Protecting reinforcement in marine and chloride-heavy environments

Service Life Modeling: Introduction to time to corrosion initiation and life-cycle cost analysis



Performance-based Design and Specifications

Concepts of performance-based vs prescriptive specifications; performance indicators and limit values

Service life modeling concepts, durability indexes, and linking test results to target design life



Science of Curing

- **The Hydration Process:** Retaining moisture allows the cement paste to develop a dense, impermeable microstructure
- **Preventing Plastic Shrinkage:** Reducing early-age cracking that creates pathways for harmful chemicals
- **Strength versus Durability Gain:** Highlighting that while a 7-day cure might reach target strength, a 14-day cure significantly increases life expectancy

On-Site Quality Control

Durability is often won or lost in the field. The "gatekeeping" of concrete quality includes:

- **Fresh Concrete Testing:** Moving beyond the slump test—monitoring air content, temperature, and workability
- **Quality Assurance in Concrete Placement:** Identifying and preventing segregation, bleeding, and honeycombing during placement

Precast Concrete Structures

- **The Factory Advantage:** Controlling curing and making precise formwork lead to higher-density concrete
- **Connection Durability:** Addressing "weak links"- ensuring joints and grouts are as durable as the element themselves
- **Speed versus Quality:** Precasting balances rapid construction without compromising the protective "skin" of the building



Speakers



C.V.R. Murty

Professor, Department of Civil Engineering
IIT Madras



Manu Santhanam

Professor, Department of Civil Engineering
IIT Madras



Rupen Goswami

Professor, Department of Civil Engineering
IIT Madras



Radhakrishna G Pillai

Professor, Department of Civil Engineering
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K. P. Jaya

Professor, Department of Civil Engineering
Anna University, Chennai



G. Sivakumar

Managing Director,
BindTech Concrete Research, Chennai



Siddappa A Hasbi

Technical Director
Kvalitet Resources LLP, Mumbai



L.R. Manjunatha

Vice President & Head-Business
Development & Specifications with
sustainability initiatives - JSW Cement, Bangalore



Amol Patil

Business Development Manager
- Target Market Concrete
Sika India Private Limited, Mumbai



Jayasankar K

Former Joint President and
National Head Technical Advisory and
Customer Solution (TASC),
UltraTech Cement Limited, Mumbai

Topics

Overview of seventh revision of IS 456

Durability design in various standards

Structural design provisions of IS 456

Design for Durability

Connections in precast structures

Common Site Quality Control Failures
and Remediation Strategies:
A Practical Guide to IS 456 Compliance

Silica Fume in High-Performance Concrete:
Guidelines for Durable Structural Design
and Construction

Case studies for the use of GGBS and
slag cements for the coastal environment

Unlocking Concrete Durability:
The Science Behind Admixtures

Enhancing cement and concrete usage efficiency
in Construction

Who Should Attend?

- Civil & Structural Engineers looking to upgrade technical expertise.
- Project Managers overseeing large-scale infrastructure projects.
- Quality Control Professionals focused on material testing and compliance.
- Academia & Researchers interested in the latest trends in cementitious materials.
- Students pursuing a career in civil engineering.

Category	Course Fee + Temporary Membership fee (INR)	GST 18%	Total (INR)
ICI Members	3500	630	4130
ICI Non Members	4250 + 750	900	5900
ICI Student Members	1500	270	1770
ICI Non Student Members	1750 + 250	360	2360

Registration : <https://forms.gle/JHdMaYs5VigSh3GVA>

Bank Details :

Name of the Account : Indian Concrete Institute Chennai Centre
Name of the Bank : ICICI Bank
Branch : Adambakkam Branch, Chennai 600088
Account Number : 155401001688
IFSC : ICIC0001554

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