Department of Civil Engineering

SCMS School of Engineering and Technology (SSET)
Vidya Nagar, Palissery, Karukutty,
Ernakulam - 683 576, Kerala.

WEBINAR 5

PATHOLOGY OF CONCRETE CRACKING

Er. Sebin Jose
Asst. General Manager
- Customer Services

Zuari Cement
HEIDELBERGCEMENT Group

11.30 AM to 12.30PM | **14th May 2020**

Join for the webinar at 11.15 AM to avoid last minute hassles.
Webinar open for students of SSET only.

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Department of Civil Engineering

REPORT ON WEBINAR ON PATHOLOGY OF CONCRETE CRACKING

Date: 14th May, 2020

The Department of Civil Engineering organised a webinar on the topic "Pathology of Concrete Cracking". The session was handled by Er. Sebin Jose, Assistant General Manager,Zuari cements on 14th May 2020. The session witnessed a participation of around 50 attendees, including students and faculty of the department.

In the session, he elaborated on reasons of concrete cracking from cosmetic defects to total failure. He discussed in detail the types and causes of cracking of concrete.Concrete provides structures with strength, rigidity, and resilience from deformation. These characteristics result in concrete structures lacking the flexibility to move in response to environmental or volume changes. Cracking is usually the first sign of distress in concrete. It is possible for deterioration to exist before cracks appear. Cracking can occur in both hardened and fresh, or plastic, concrete as a result of volume changes and repeated loading. Once the crack is formed, reseal the cracks by injecting with liquid resin.

Shrinkage is another parameter regarding cracking of concrete. Mainly there are two types of shrinkage: thermal shrinkage and hydraulic shrinkage. These types, effects and ways of perverting shrinkage was explained by him in the session.

Another reason for cracking in concrete is due to carbonation and corrosion of reinforcement. Concrete structures deteriorates due to corrosion of reinforcement due to poor cover. Carbonation in concrete occurs due to atmospheric carbon dioxide, on the building located at height and in contact with atmospheric carbonates. When rusting takes place, concrete separates from corroded steel reinforcements.Cracking of concrete can also takes place due to alkali aggregate reaction, which are most common in dams, bridges, walls etc. this reaction is complex in nature and the salt formed causes the concrete to swell. Hardened concrete cracking leads to excessive swelling, which expanding cracks, reducing strength etc. Hence this will affect the durability of the concrete structures. Hardened concrete will be subjected to creep, which is the deformation of concrete under sustained loading. When the load is removed, the deformation can be partially reversed.

For the above reasons for cracking of concrete, there are many recommendation on choose of materials, atmospheric conditions, admixtures if any, temperature etc. webinar on pathology of concrete by Er.Sebin Jose was effective and we request more webinars on interesting topics.