

Lecture 3.21: Durability of Concrete & factors affecting it.

Concrete Technology (DI04006011)

Civil Engineering Department

Lecture Agenda

- 1. Durability of Concrete & factors affecting it.
- 2. Summary and Q&A

3.5 Durability of Concrete & factors affecti...

- Durability is the ability to resist weathering, chemical attack, and abrasion.
- Permeability: The primary factor; dense, impermeable concrete is generally durable.
- Sulphate Attack: Sulphates react with C3A, causing expansion and disruption; mitigate using Sulphate Resisting Cement.
- Carbonation: CO₂ penetrates concrete, reduces pH, and destroys the passivating layer around steel.
- Freezing and Thawing: Water in pores freezes and expands, causing spalling; mitigate using air-entraining agents.

Summary

- Recap of the specific material properties and methods discussed.
- Always refer back to the standard IS codes for parameter limits.