

Lecture 3.17: Hardened Concrete and its Properties: Compressive Strength, Tensile Strength,...

Concrete Technology (DI04006011)

Civil Engineering Department

Lecture Agenda

- 1. Hardened Concrete and its Properties: Compressive Strength, Tensile Strength, Bond Strength, Flexural Strength, Durability and impermeability.
- 2. Summary and Q&A

3.1 Hardened Concrete and its Properties: Co...

- Compressive Strength: The most critical property; heavily relies on w/c ratio and compaction.
- Tensile & Flexural Strength: Concrete is weak in tension (approx 10% of compressive strength).
- Bond Strength: Resistance to sliding between reinforcing steel and surrounding concrete.
- Impermeability: Resistance to the flow of fluids; crucial for protecting reinforcement from corrosion.
- Durability: Ability to withstand weathering action, chemical attack, and abrasion.

Summary

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