

Lecture 1.4: Physical and Chemical properties of cement.

Concrete Technology (DI04006011)

Civil Engineering Department

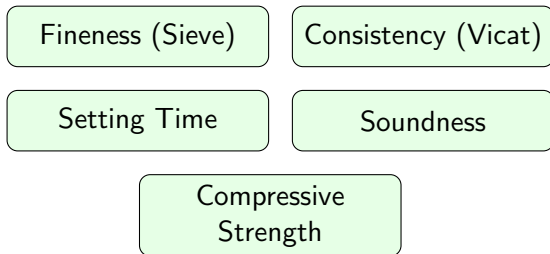
Lecture Agenda

- 1. Physical and Chemical properties of cement.
- 2. Testing of cement as per BIS.
- 3. Summary and Q&A

1.4 Physical and Chemical properties of ceme...

- Physical properties: Fineness, setting time, soundness, compressive strength, and specific gravity.
- Chemical properties: Ratio of percentage of alumina to iron oxide, lime saturation factor.
- Loss on ignition: Should not exceed 5% by mass.
- Insoluble residue: Should not exceed 2% by mass.
- High fineness increases the rate of hydration and early strength development.

1.5 Testing of cement as per BIS.



- **Initial Setting Time:** Min 30 mins
- **Final Setting Time:** Max 600 mins

Summary

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