

Lecture 1.6: Role of Aggregate, types of aggregate and it's source, Classification of aggr...

Concrete Technology (DI04006011)

Civil Engineering Department

Lecture Agenda

- 1. Role of Aggregate, types of aggregate and it's source, Classification of aggregate, Soundness of aggregate, Alkali Aggregate Reaction, Grading of aggregate.
- 2. Summary and Q&A

1.7 Role of Aggregate, types of aggregate an...

- Aggregates form 70-80% of concrete volume, providing dimensional stability and wear resistance.
- Source: Natural (river sand, crushed rock) or Artificial (slag, recycled aggregate).
- Classification: Fine aggregates (passing 4.75mm IS sieve) and Coarse aggregates (retained on 4.75mm).
- Soundness: Resistance to volume changes due to physical environmental effects like freezing/thawing.
- Alkali-Aggregate Reaction: Chemical reaction between active silica in aggregate and alkalis in cement, causing expansion.

Summary

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