

Lecture 2.10

Principles of writing specification

Estimation & Costing

Agenda

- Introduction to Specification Writing
- Key Principles
- Clarity and Precision
- Essential Elements
- Fairness & Practicality
- Summary

Key Principles of Specification Writing

The Goal

To provide clear, unambiguous instructions that ensure the desired quality while remaining fair and practically achievable.

- **Accuracy:** Specifications should exactly describe the requirements without contradictions.
- **Simplicity:** Language should be simple enough for the site supervisor and contractor to understand easily.
- **Completeness:** No necessary information should be omitted.

Clarity and Precision

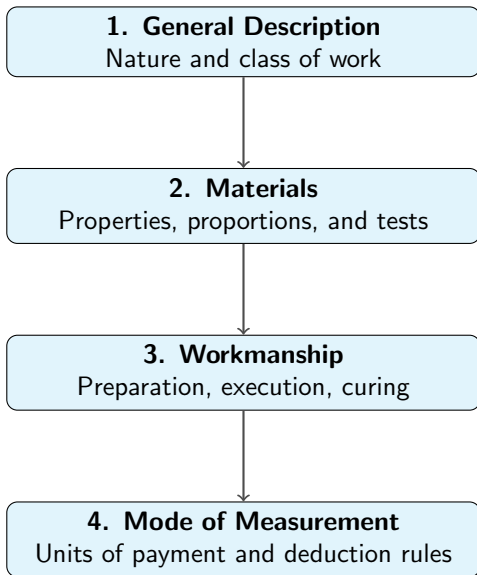
Vague words lead to disputes and poor quality work. Avoid words like *suitable*, *reasonable*, *good*, or *as directed by the engineer*.

Bad vs. Good Specification

Bad: "Bricks should be of good quality and well burnt."

Good: "Bricks shall be First Class, machine-molded, sound, hard, well-burnt, with a minimum crushing strength of 10.5 N/mm^2 and water absorption not exceeding 15%."

Essential Elements of a Specification



- **Realistic Tolerances:** Do not specify an impossible degree of perfection. Allowable tolerances must be clearly stated.
- **Mutual Fairness:** Specifications should not be entirely one-sided. They should protect the owner's interest without unfairly burdening the contractor.
- **Economic Consideration:** High standards mean high costs. Specifications should match the project's budget and importance.
- **Standardization:** Use references to IS Codes (Indian Standards) wherever possible (e.g., "Cement shall conform to IS: 269").

Summary

- A good specification is the backbone of a successful civil engineering contract.
- It must be **clear, precise, and unambiguous**.
- Every specification must systematically address the **materials, workmanship, and measurement**.
- Avoid vague terminology to minimize legal disputes.