



## **IS 16993:2018 - Quality Microfine Ordinary Portland Cement for Precision Applications**

Ordinary Portland cement (OPC) in India is available in various grades. However, the prescribed fineness might not be sufficient for certain specialized application of grouting and repairs for leak prevention. **Quality microfine OPC thus must offer superior consistency, high strength, and rapid setting properties, while being versatile enough to use in a range of challenging environments.**

**IS 16993:2018**, has therefore been brought out to prescribe the various characteristics and properties of microfine OPC for **special applications like rock grouting, grouting concrete structures and underground construction for leak prevention, soil stabilization**, etc. This finely ground cement has higher reactivity and penetrability, making it **ideal for precise construction needs** where traditional cements might fall short. This standard also covers requirements for microfine sulphate resisting Portland cement.

**IS 16993:2018**, addresses key performance parameters such as particle size, chemical requirements, fineness, compressive strength, bleeding test and setting time to ensure a reliable and efficient product for end users.

### **Key Quality Parameters in IS 16993:2018**

1. **Fineness and Particle Size:** IS 16993 mandates precise fineness, ensuring that microfine OPC particles are small enough to penetrate fine gaps in concrete or soil, providing thorough bonding and stability.
2. **Compressive Strength:** The standard sets minimum compressive strength requirements, guaranteeing the cement will perform reliably under stress, essential for structural integrity.
3. **Setting Time and Workability:** By specifying optimal setting times, the standard ensures microfine OPC can harden quickly where necessary without compromising workability, allowing users to achieve both speed and precision in their projects.
4. **Chemical Composition:** IS 16993 outlines acceptable limits for chemical components, controlling the cement's reactivity and durability, even under challenging conditions such as exposure to water or chemicals.

### **Product Marking and Mandatory Compliance**

Each batch of microfine OPC should be mandatorily marked with essential details like manufacturer identification, Net Quantity, batch number, manufacturing and retesting date and other compliance as per IS 16993. The **Cement (Quality Control) Order, 2003** also mandates that **microfine OPC used in India must meet IS 16993 standards**, assuring high-quality materials for specialized construction.

In summary, **IS 16993:2018 ensures that microfine OPC provides the fineness, strength, and reliability** necessary for precision construction, making it a trusted choice for high-performance applications.