

## **Indian Standard IS 17441 Part 1: Your Guide to Non-Metallurgical Grade Calcined Alumina**

Calcined alumina is widely used in various industrial applications beyond metallurgy, such as ceramics, refractories, polishing, and abrasives. To ensure consistent quality and performance, the Bureau of Indian Standards (BIS) has developed **IS 17441 Part 1**, which specifies the requirements for **non-metallurgical grade calcined alumina**.

This standard defines key parameters such as chemical composition, particle size, and physical properties to meet the specific needs of non-metallurgical industries. High-quality calcined alumina enhances performance and ensures reliability in demanding industrial applications.

### **Key Features of IS 17441 Part 1:**

- 1. Chemical Composition:**  
The standard defines permissible levels of impurities such as silica, iron oxide, and sodium oxide to ensure the calcined alumina is suitable for high-performance non-metallurgical applications.
- 2. Particle Size and Surface Area:**  
The specified particle size distribution and surface area ensure optimal performance for applications such as ceramics (for achieving desired strength and finish) or polishing (for achieving precision and smoothness).
- 3. Physical Properties:**  
The standard ensures consistency in bulk density, hardness, and thermal properties, which are critical for applications like refractories and abrasives.
- 4. Moisture and Flowability:**  
Low moisture content and good flowability are essential for ease of handling and processing in industrial setups.
- 5. Testing and Quality Assurance:**  
IS 17441 Part 1 mandates rigorous testing procedures to verify that the calcined alumina meets the defined specifications, ensuring reliability and performance across diverse applications.

### **DPIIT Quality Control Order:**

The **DPIIT Quality Control Order** mandates that all non-metallurgical grade calcined alumina sold, manufactured, or imported in India comply with **IS 17441 Part 1** and display the BIS Standard Mark. This ensures that industries receive high-quality materials that meet stringent performance and safety standards.

### **Why IS 17441 Part 1 Matters:**

Compliance with IS 17441 Part 1 ensures that non-metallurgical grade calcined alumina meets the necessary quality and performance benchmarks. Whether it's being used for ceramics, abrasives, or other specialized applications, the standard ensures that the material provides consistent results and superior performance.

**In Summary:** When sourcing non-metallurgical grade calcined alumina, always check for the BIS Standard Mark to ensure compliance with **IS 17441 Part 1**. This guarantees a product that meets high standards for quality, reliability, and performance, enabling smooth operations and exceptional results across a wide range of industrial applications.