

Bentonite Specification

1. Product Identification

- **Product Name:** Bentonite
- **Chemical Composition:** Montmorillonite ($\text{Al}_2\text{O}_3 \cdot 4\text{SiO}_2 \cdot \text{H}_2\text{O}$)
- **CAS Number:** 1302-78-9
- **Appearance:** Fine powder or granular
- **Color:** Light gray to beige
- **Odor:** Odorless

2. Physical Properties

- **Moisture Content:** Max 10%
- **Bulk Density:** 0.8 - 1.2 g/cm³
- **pH (10% Solution):** 8 - 10
- **Swelling Index:** 20 - 30 ml/2g
- **Particle Size:**
 - 200 Mesh: Min 90%
 - 325 Mesh: Min 80%

3. Chemical Properties

- **SiO₂ (Silicon Dioxide):** 45 - 65%
 - **Al₂O₃ (Aluminum Oxide):** 10 - 20%
 - **Fe₂O₃ (Iron Oxide):** Max 5%
 - **CaO (Calcium Oxide):** 1 - 5%
 - **MgO (Magnesium Oxide):** 2 - 10%
 - **Na₂O (Sodium Oxide):** 0.5 - 5%
 - **Loss on Ignition (LOI):** 5 - 12%
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4. Performance Characteristics

- **Viscosity (API 13A):** Min 30 cP
- **Gel Strength (10 sec/10 min):** 3/10 lb/100ft²
- **Filtration Loss (API):** Max 15 ml
- **Yield Point:** 15 - 35 lb/100ft²

5. Application Uses

- Drilling mud for oil and gas wells
- Binder for foundry molds
- Cat litter production
- Water treatment and purification
- Soil stabilizer in construction
- Agricultural soil conditioner

6. Packaging & Storage

- **Packaging:** 25 kg bags, 50 kg bags, or bulk in jumbo bags
- **Storage Conditions:** Store in a dry and ventilated area away from moisture
- **Shelf Life:** 12 months if stored properly

7. Safety & Handling

- Avoid inhalation of dust; use appropriate PPE.
- Ensure proper ventilation during handling.
- Follow standard safety protocols for mineral powders.

8. Compliance & Certifications

- Compliant with API 13A (for drilling applications)
- Meets ISO and ASTM standards for industrial use

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