

# KAOLIN CLAY – NOODLES



**Monthly Capacity:**  
**3000 Metric Ton**

## Chemical Composition:

| TiO <sub>2</sub> | SiO <sub>2</sub> | Al <sub>2</sub> O <sub>3</sub> | K <sub>2</sub> O | Fe <sub>2</sub> O <sub>3</sub> | CaO         | Na <sub>2</sub> O | Loss on Ignition |
|------------------|------------------|--------------------------------|------------------|--------------------------------|-------------|-------------------|------------------|
| 45 – 55 %        | 45 – 55 %        | 35 – 40 %                      | 0.5 – 2.5 %      | 0.3 – 1.2 %                    | 0.1 – 0.5 % | 0.1 – 0.6 %       | 12 – 14 %        |

## Packing Types / Sizes :



**HDPE Bags**



**PP Bags**



**Jumbo Bags**



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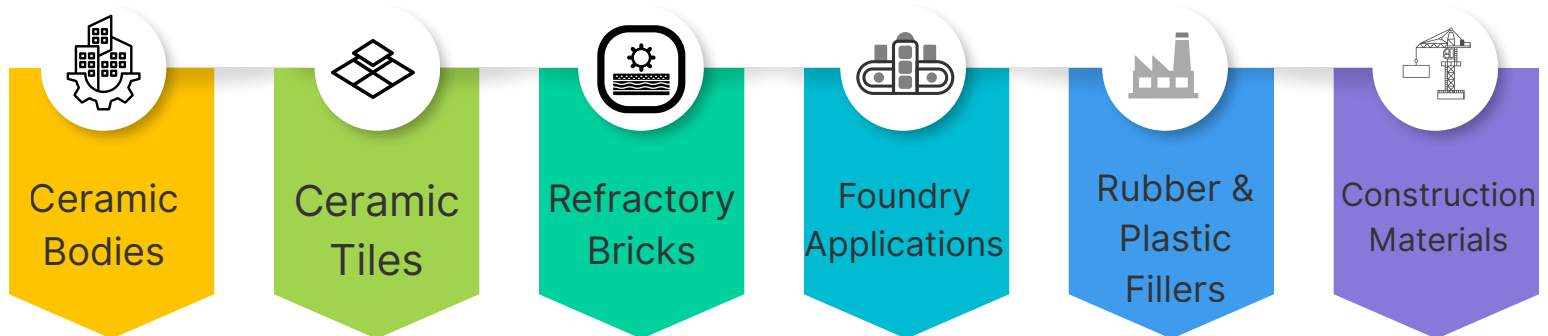
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# KAOLIN CLAY – GRANULES

## Physical & Thermal Properties:

| Specification    | Details                             | Specification         | Details                        |
|------------------|-------------------------------------|-----------------------|--------------------------------|
| Melting Point    | 1750°C – 1785°C                     | Thermal Conductivity  | Low                            |
| Specific Gravity | 2.55 – 2.65                         | Dimensional Stability | Excellent at high temperatures |
| Density          | 2.4 – 2.6 g/cm <sup>3</sup>         | Porosity              | Low to medium                  |
| Strength         | Moderate<br>(improves after firing) | Water Absorption      | 10% – 18%                      |
| Hardness         | 2 – 2.5 (Mohs scale)                | Foam                  | Nil                            |

## Uses:



## Physical Appearance:

- **Specific Gravity:** 2.58 – 2.63
- **Density (Bulk, loose):** 0.80 – 1.10 g/cm<sup>3</sup>
- **Tapped Bulk Density:** 1.10 – 1.40 g/cm<sup>3</sup>
- **Aerated Powder Density (after crushing):** 0.30 – 0.50 g/cm<sup>3</sup>
- **Hardness (Mohs):** 2.0 – 2.5
- **Porosity:** Medium
- **Dimensional Stability:** Excellent
- **Strength (Green / Handling):** Good
- **Sagging:** Very low

## Mechanical Properties

- **Dry MOR (Modulus of Rupture):** 2 – 5 MPa
- **Fired MOR:** 5 – 15 MPa
- **Modulus of Rupture (overall):** Moderate

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## Moisture & Absorption:

### Moisture

8 – 15 %

### Water Absorption

35 – 55 %

### Water of Plasticity

30 – 38 %

### Oil Absorption

30 – 45 g / 100 g

## Particle Size

| Content                    | Data                          |
|----------------------------|-------------------------------|
| Grain Size (D50)           | 1 – 5 $\mu\text{m}$           |
| Particle Size Distribution | Fine, narrow                  |
| Residue on 325 Mesh        | 0.5 – 3.0 %                   |
| Wet Screen Residue         | < 2 %                         |
| Surface Area (BET)         | 10 – 20 $\text{m}^2/\text{g}$ |

## Shrinkage / Contraction:

| Content               | Data                      |
|-----------------------|---------------------------|
| Drying contraction    | 2-4%                      |
| Firing contraction    | 1-3%                      |
| Total contraction     | 3-7%                      |
| Contraction (overall) | Low compared to ball clay |

## Thermal Properties:

### Thermal Conductivity

0.2-0.4 W/m·K

### Firing Temperature

1100-1300 °C

### Thermal cycles

resistance

Good

### Cycles (mins)

30-90 min

(typical firing soak)

# KAOLIN CLAY – GRANULES

## ➤ Rheology & Slurry Properties

- **Viscosity (Lehmann):** 200-600 cps (depends on solids)
- **Slurry density:** 1.65-1.75 g/cm<sup>3</sup>
- **Runout time:** 20-40 sec (standard flow cup)

## ➤ Deflocculation

- **Type of deflocculant:** Sodium silicate / Sodium polyacrylate
- **Optimized deflocculant addition:** 0.1-0.35 %
- **Deflocculant addition (typical):** 0.2 %
- **Typical Addition:** ~0.2 %

## ➤ Chemical Properties:

| Content | pH<br>(aqueous slurry) | Fluorine (F) | MgO            | Water-<br>soluble salts |
|---------|------------------------|--------------|----------------|-------------------------|
|         | : 4.5 – 6.5            | < 0.01 %     | : 0.05 – 0.5 % | <0.1 %                  |

## ➤ Optical / Color Properties:

Yellowness (b value)

Low

Whiteness

80 – 92 %

## ➤ Mineralogical Analysis (Typical)

Kaolinite  
85-98 %

Mica / Illite  
0-5 %

Quartz  
1-10 %

Feldspar / Anatase (trace)  
\* <1 %