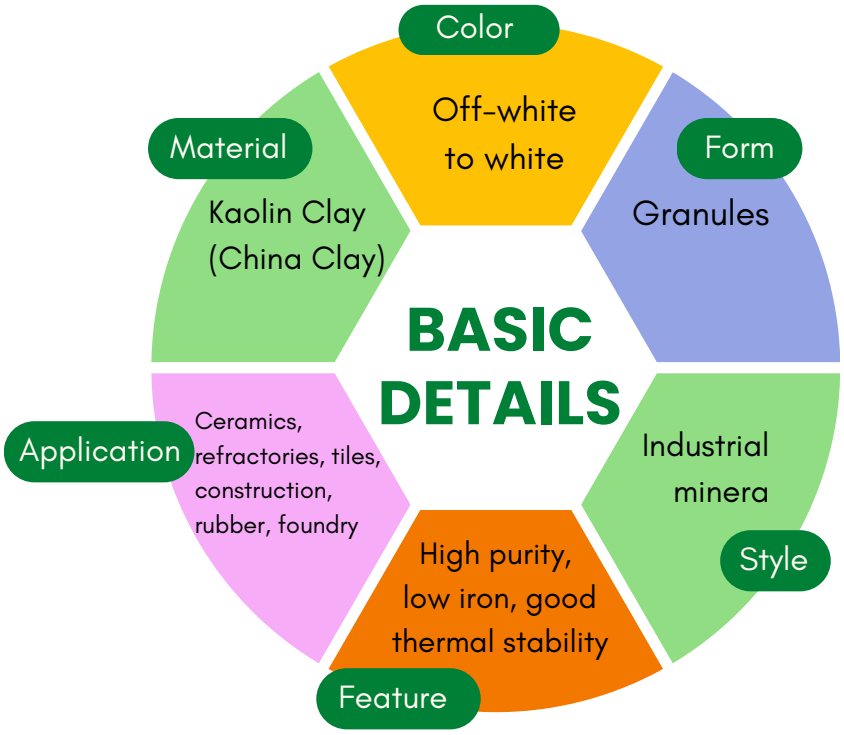
KAOLIN CLAY – GRANULES



Chemical Composition:

Content	SiO_2	Al_2O_3	MgO	K_2O	Whiteness	Purity
	45% – 55%	35% – 38%	≤ 0.5%	1.5% – 3.0%	75% – 90%	95% – 99%

Packing Types / Sizes :

HDPE Bags

PP Bags

Jumbo Bags

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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/cm³	Porosity	Low to medium
Strength	Moderate (improves after firing)	Water Absorption	10% – 18%
Hardness	2 – 2.5 (Mohs scale)	Foam	Nil

Usses:

- Ceramic Bodies
- Ceramic Tiles
- Refractory Bricks
- Foundry Applications
- Rubber & Plastic Fillers
- Construction Materials

Physical Appearance:

- **Shape**: Irregular granules
- **Lump / Granule Size**: 1-3 mm, 2-4 mm, 3-6 mm (customizable)
- **Surface Finish**: Natural / slightly rough

Particle & Structural Properties:

- **Grain size (D50):** 1-5 µm (raw); granules may be 50-500 µm agglomerates
- **Residue on 325 mesh:** 0.5-3.0 %
- **Surface area (BET):** 10-20 m^2/g
- **Aerated powder density:** 0.25-0.45 g/cm^3
- **Tapped powder density:** 0.45-0.75 g/cm^3
- **Specific gravity:** 2.58-2.63

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Moisture & Absorption:

Moisture
0.5 - 2.0%

Water Absorption
40-60%

Water of Plasticity
30-38%

Oil Absorption
30-45g/100g

Mechanical Properties

Content	Data
Hardness (Mohs)	2.0–2.5
Modulus of rupture (dry)	2–5 MPa
Dimensions stability	Excellent (low thermal expansion)
Sagging	Very low (due to refractory nature)

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)

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Rheology & Slurry Properties

- **Viscosity (Lehmann):** 200–600 cps (depends on solids)
- **Slurry density:** 1.65–1.75 g/cm^3
- **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 %

Chemical Properties:

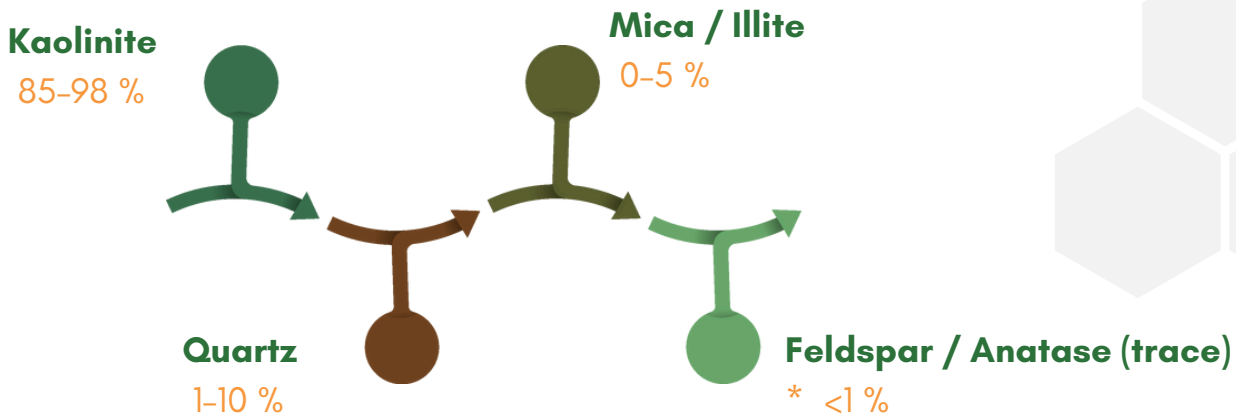
Content	pH (aqueous slurry)	Fluorine (F)	MgO	Water-soluble salts
	4.5–6.5	<0.01 %	0.05–0.5 %	<0.1 %

Optical / Color Properties:

Yellowness (b value)
2–6 (low iron grades)

Whiteness
80–92 %

Mineralogical Analysis (Typical)



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