

Calcined Alumina — Technical Data Sheet

Revision: 2025-01 ISO 9001 Certified viseray.com

1. PRODUCT DESCRIPTION

AF-C calcined aluminas are produced by high-temperature calcination (>1300°C) of high-purity aluminum hydroxide. Controlled alpha-phase conversion, grinding, and air-separation yield powders with narrow particle size distribution and consistent batch-to-batch quality.

2. CHEMICAL COMPOSITION

PARAMETER	AF-C-1	AF-C-2	AF-C-3
Al ₂ O ₃	≥ 99.3%	≥ 99.3%	≥ 99.5%
Na ₂ O (total)	≤ 0.30%	≤ 0.30%	≤ 0.20%
Fe ₂ O ₃	≤ 0.03%	≤ 0.03%	≤ 0.03%
SiO ₂	≤ 0.05%	≤ 0.05%	≤ 0.04%
CaO	≤ 0.04%	≤ 0.04%	≤ 0.04%
LOI (300–1100°C)	≤ 0.30%	≤ 0.40%	≤ 0.50%

3. PHYSICAL PROPERTIES

PARAMETER	AF-C-1	AF-C-2	AF-C-3
Alpha-Al ₂ O ₃	≥ 92%	≥ 92%	≥ 95%
D50 (median particle size)	40–80 μm	15–40 μm	2–5 μm
BET (specific surface area)	0.5–1.5 m ² /g	1.0–3.0 m ² /g	2.0–5.0 m ² /g
Bulk density	0.80–1.00 g/cm ³	0.70–0.90 g/cm ³	0.55–0.75 g/cm ³
Tap density	1.10–1.30 g/cm ³	1.00–1.20 g/cm ³	0.80–1.00 g/cm ³
Primary crystal size	1.5–5.0 μm	0.5–3.0 μm	0.3–1.5 μm

4. PARTICLE SIZE DISTRIBUTION (TYPICAL)

FRACTION	AF-C-1	AF-C-2	AF-C-3
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D10	10–25 µm	3–8 µm	0.5–1.5 µm
D50	40–80 µm	15–40 µm	2–5 µm
D90	100–160 µm	45–90 µm	8–18 µm
+ 325 mesh (>45 µm)	35–65%	5–30%	≤ 0.5%

5. APPLICATIONS

- Shaped and unshaped refractories
- Kiln furniture and foundry products
- Technical ceramics and wear-resistant ceramics
- Ceramic membranes and catalyst supports
- Glazes, frits, and porcelain bodies

6. PACKAGING & STORAGE

- 25 kg paper sacks on 1000 kg pallets (standard)
- 500 kg or 1000 kg big bags
- Bulk tanker delivery available for large-volume orders
- Store in dry conditions; shelf life 24 months in unopened original packaging

7. SAFETY

Non-hazardous under REACH and OSHA HCS. Avoid dust inhalation — use local exhaust ventilation. Prolonged inhalation of fine alumina dust may cause mild respiratory irritation. Full SDS available on request.

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The information herein is believed to be accurate and is offered in good faith, but without warranty. Buyers should conduct their own tests to determine suitability for their application.