

Product Data Sheet

White Fused Alumina (WFA) - Refractory & Abrasive Grades

Description

Description	White Fused Alumina (WFA) is a high-purity aluminium oxide (Al_2O_3) produced by fusing calcined alumina in an electric arc furnace at temperatures above $2,000^\circ\text{C}$, then crushing and precision-grading the resulting fused mass into defined particle-size grades. Its high purity, hardness and chemical stability make it the standard raw material across both refractory (castables, precision casting, kiln furniture) and abrasive (bonded/coated abrasives, blast media) applications.
Applications	Refractory castables, ramming mixes, precision investment-casting shell material, kiln furniture Bonded and coated abrasives – grinding wheels, sandpaper, abrasive belts Sandblasting and surface-preparation media Technical/engineering ceramics and high-purity ceramic raw material
Grade	Multi-Grade – Refractory (Size Sand / Fine Powder) and Abrasive F-Grade (Coarse / Medium / Fine), Al_2O_3 Min. 99.0–99.2%
CAS No.	1344-28-1

Key Benefits

1. Very high Al_2O_3 purity (min. 99.0–99.2%) with tightly controlled Na_2O , SiO_2 and CaO impurity limits
2. High hardness (Mohs ≈ 9) and thermal stability suited to demanding refractory and abrasive applications
3. Full range of particle sizes/mesh grades available across refractory sand, fine powder and F-grade abrasive tiers
4. Chemically inert with excellent resistance to thermal shock
5. Consistent white colour and crystal structure supporting uniform product performance batch to batch

Chemical Analysis & Physical Data

Typical Specification

Application / Grade	Size / Mesh	Al ₂ O ₃ Min %	Na ₂ O Max %	SiO ₂ Max %	CaO Max %
Refractory — Size Sand	0–1mm, 1–3mm, 3–5mm, 5–8mm	99.2	0.3	0.1	0.5
Refractory — Fine Powder	180#–0, 200#–0, 320#–0	99.0	0.4	0.1	0.6
Abrasive F Grade — Coarse	F12# to F80#	99.0	0.3	0.1	0.4
Abrasive F Grade — Medium	F90# to F150#	99.0	0.4	0.1	0.4
Abrasive F Grade — Fine	F180# to F240#	99.0	0.5	0.1	0.4

Typical Physical Properties (All Grades)

Property	Unit	Typical Value
Crystal Form	–	Alpha-alumina (corundum)
Hardness (Mohs)	–	≈ 9
True Density	g/cm ³	3.90 – 3.95
Melting Point	°C	≈ 2,050
Colour	–	White
Solubility in Water	–	Insoluble

Packaging

Packaging 25 kg / 50 kg PP Woven Bags (with liner)
1,000 kg Jumbo Bags (FIBC)
Bulk (bulker/hopper truck) available on request for large sand/powder orders
Custom packaging available on request.

Storage & Handling

1. Store in a dry, covered warehouse away from moisture and contamination
2. Keep bags sealed until point of use to prevent cross-contamination between grades
3. Segregate different size/mesh grades clearly to avoid mix-up during storage and dispatch
4. Stack on pallets, away from direct ground contact
5. Use appropriate PPE (dust mask, goggles) when handling – avoid dust generation

Quality Assurance

1. Every batch is tested against the specification above before dispatch
2. A batch-specific Certificate of Analysis (COA) accompanies each shipment, reporting Al₂O₃, Na₂O, SiO₂ and CaO content, and particle size distribution, against this TDS
3. COA available on request prior to shipment for buyer pre-approval
4. Third-party inspection (SGS/Intertek) can be arranged on request for regulated-market shipments

Disclaimer: The information provided in this document is based on our current knowledge and is intended as a general guide. Ochnology Solution Pvt. Ltd. reserves the right to modify specifications without prior notice. Buyers are advised to conduct their own testing for specific applications. A batch-specific Certificate of Analysis (COA) is available on request for each shipment.