

Brown Fused Alumina

Description: Brown fused alumina (BFA) is produced by smelting bauxite containing 70–75% Al_2O_3 with anthracite and other reducing agents in an electric arc furnace. During smelting, impurities are reduced to form ferrosilicon with a density of 6–7 g/cm³. Because this is substantially higher than the density of BFA (approximately 3.99 g/cm³), the ferrosilicon settles at the furnace bottom. The iron-rich interface layer between the ferrosilicon and BFA is separated and classified as a lower-grade BFA product.

BFA can be produced in tilting or fixed furnaces. Tilting furnaces allow continuous tapping and controlled cooling, supporting higher efficiency and more consistent quality. Fixed furnaces operate in batch cycles and require longer cooling times, which can produce material with different crystal development and bulk-density characteristics.

It offers excellent grinding performance, broad application versatility and cost-effectiveness. With good heat resistance and toughness, BFA is an ideal abrasive for manufacturing high-performance cutting tools, grinding wheels and other bonded abrasive products.

Chemical & Physical Properties

Parameter	Requirement / Typical Value
Al_2O_3	≥ 95.00%
Fe_2O_3	≤ 0.20%
SiO_2	≤ 1.00%
TiO_2	≤ 3.00%
MgO + CaO	≤ 0.80%
Carbon (C)	≤ 0.04%
Bulk density (g/cm ³)	≥ 3.85 g/cm ³
Magnetic material	≤ 0.02%
Moisture	≤ 0.50%

Refractory Grades

Grits (mm)	0–1, 1–3, 3–5, 5–8, 8–12, 8–15, 0–50, 0–30, 0–25, 0–20, 0–18, 0–15
Fine Powder (mesh)	150#–0, 180#–0, 200#–0, 240#–0, 280#–0, 325#–0

Abrasive Grain Sizes

F Series	F4–F80, F90–F150, F180–F220
P Series	P12–P80, P100–P150, P180–P240
W Series	W1–W63

Product Information

Packing	In 1.00, 1.25 or 1.35 MT bulk bags, or as requested.
Origin	Henan Province, China.