



Brown Fused Alumina (A)

Brown fused alumina is produced by fusion of bauxite in an electric arc furnace at high temperatures. The brownish colored product shows high hardness as well as extreme toughness. The materials are used to grind metals of high-tensile strength such as steel, annealed malleable iron and hard bronze. It can also be used as high-class refractory.



Grain Usages and Types				
Usage	For vitrified wheels	For organic wheels	For coated abrasives	For refractory materials
Type	A	A-B	A-P	A-R

Physical Characteristics					
Item	Basic mineral	Crystal system	Crystal color	Mohs hardness	Density
Brown fused alumina	α - Al ₂ O ₃	Hexagonal	Brown	9	$\geq 3.90\text{g/cm}^3$
Item	Micro hardness	Electrical resistivity	Grinding ability (compared with diamond as one)	Linear expansion coefficient (when 900°C $\alpha \cdot 10^{-6}\text{k}^{-1}$)	
Brown fused alumina	HV1800-2200	10^{14} - $10^{16}\Omega \cdot \text{cm}$	0.10	7.6	



Chemical Composition (GB/T 2478-2008)						
Type	Grit	Chemical Composition (% , by weight)				
		Al ₂ O ₃	TiO ₂	CaO	SiO ₂	Fe ₂ O ₃
A	F4-F80	95.00-97.50	1.70-3.40	≤0.42	≤1.00	≤0.30
	F90-F150	94.50-97.00				
	F180-F220	94.00-97.00	1.70-3.60	≤0.45	≤1.00	≤0.30
	F230-F800	≥93.50	1.70-3.80	≤0.45	≤1.20	≤0.30
	F1000-F1200	≥93.00	≤4.00	≤0.50	≤1.40	≤0.30
A-B	F4-F80	≥94.00	1.50-3.80	≤0.45	≤1.20	≤0.30
	F90-F220	≥93.00	1.50-4.00	≤0.50	≤1.40	≤0.30
	F230-F800	≥92.5	≤4.20	≤0.60	≤1.60	≤0.30
	F1000-F1200	≥92.00	≤4.20	≤0.60	≤1.80	≤0.30
A-P	P12-P80	95.00-97.50	1.70-3.40	≤0.42	≤1.00	≤0.30
	P100-P150	94.50-97.00				
	P180-P220	94.00-97.00	1.70-3.60	≤0.45	≤1.00	≤0.30
	P240-P800	≥93.50	1.70-3.80	≤0.45	≤1.20	≤0.30
	P1000-P1200	≥93.00	≤4.00	≤0.50	≤1.40	≤0.30
	P1500-P2500	≥92.50	≤4.20	≤0.55	≤1.60	≤0.30
A-R	0-1mm	94.00-97.50	1.50-3.80	≤0.45	≤1.40	≤0.30
	1-3mm	94.00-97.50	1.50-3.80	≤0.45	≤1.40	≤0.30
	3-5mm	94.00-97.50	1.50-3.80	≤0.45	≤1.40	≤0.30
	5-8mm	94.00-97.50	1.50-3.80	≤0.45	≤1.40	≤0.30

Note: Special requirement on chemical composition can be satisfied through discussion.



Guaranteed bulk density range of coarse grains (A / A-B, g/cm ³)			
Grit	Grade		
	Roll Crushing	Ball Mill	BMK
F12	1.84±0.05	1.92±0.05	2.00±0.05
F14	1.83±0.05	1.91±0.05	1.99±0.05
F16	1.81±0.05	1.90±0.05	1.98±0.05
F20	1.78±0.05	1.87±0.05	1.98±0.05
F22	1.76±0.05	1.85±0.05	1.96±0.05
F24	1.74±0.05	1.84±0.05	1.94±0.05
F30	1.72±0.05	1.81±0.05	1.90±0.05
F36	1.70±0.05	1.79±0.05	1.87±0.05
F40	1.68±0.05	1.76±0.05	1.85±0.05
F46	1.65±0.05	1.75±0.05	1.83±0.05
F54	1.63±0.05	1.73±0.05	1.81±0.05
F60	1.62±0.05	1.72±0.05	1.79±0.05
F70	1.60±0.05	1.69±0.05	1.78±0.05
F80	1.57±0.05	1.65±0.05	1.76±0.05
F90	1.54±0.05	1.64±0.05	1.74±0.05
F100	1.51±0.05	1.60±0.05	1.70±0.05
F120	1.49±0.05	1.59±0.05	1.68±0.05
F150	1.47±0.05	1.57±0.05	1.65±0.05
F180	1.45±0.05	1.56±0.05	1.61±0.05
F220	1.43±0.05	1.53±0.05	1.59±0.05

Note: Special requirement on bulk density can be satisfied through discussion.



Guaranteed bulk density range of coarse grains (A-P, g/cm ³)			
Grit	Grade		
	Roll Crushing	Ball Mill	BMK
P12	1.80±0.05	1.88±0.05	1.96±0.05
P16	1.78±0.05	1.85±0.05	1.94±0.05
P20	1.76±0.05	1.83±0.05	1.93±0.05
P24	1.73±0.05	1.81±0.05	1.92±0.05
P30	1.70±0.05	1.79±0.05	1.90±0.05
P36	1.68±0.05	1.76±0.05	1.88±0.05
P40	1.65±0.05	1.73±0.05	1.86±0.05
P50	1.62±0.05	1.71±0.05	1.83±0.05
P60	1.59±0.05	1.67±0.05	1.81±0.05
P80	1.57±0.05	1.64±0.05	1.77±0.05
P100	1.55±0.05	1.62±0.05	1.73±0.05
P120	1.52±0.05	1.59±0.05	1.70±0.05
P150	1.49±0.05	1.55±0.05	1.66±0.05
P180	1.47±0.05	1.52±0.05	1.62±0.05
P220	1.45±0.05	1.50±0.05	1.58±0.05

Note: Special requirement on bulk density can be satisfied through discussion.

Optional Particle Sizes	
Product Category	Particle Size
A	F12-F220, F240-F1200, JIS240#-8000# etc.
A-B	F12-F220, F240-F1200, JIS240#-8000# etc.
A-P	P12-P220, P240-P3000 etc.
A-R	0-1MM, 1-3MM, 3-5MM, 5-8MM, etc.

Note: Special specification can be customized according to customer's requirements.