
Fused Alumina Zirconia-AZ25



AZ25 is an electro-fused alumina-zirconia grain, produced by fusing alumina and zirconia raw materials at about 2000 °C temperature in an electric arc furnace. Following a unique process of quenching, crushing, and resizing, we produce the distinct characteristics and the exact grain measurements. AZ25 is extremely wear resistant and anti-friable grain that is widely for bonded abrasives.

JTC offers two products ranges of AZ25, AZ25-F grade and AZ25-Extra Blocky (AZS25).

AZ25 is a dense, durable material frequently used to produce heavy-duty bonded abrasives.

AZS25 is extremely tough and hard with blocky shape and is re-shaped based on the original AZF25 material. It is frequently used for producing extra-duty bonded abrasives for steel conditioning industry.

Characteristics

Structure	Absolute density	Knoop hardness	Melting point	Color
a- Al ₂ O ₃ , m. t – ZrO ₂	4.35 g/cm ³	1780 kg/mm ²	1950°C	Grey

Chemical Analysis

Al ₂ O ₃	ZrO ₂	SiO ₂	Fe ₂ O ₃	Na ₂ O	TiO ₂
75%	24%	0.20%	0.20%	0.08%	0.15%

AZ25-F Bulk Density(g/cm³)

F4	F6	F8	F10	F12
-	-	2.10 - 2.28	2.20 - 2.38	2.16 - 2.34
F14	F16	F20	F22	F24

2.10 - 2.28	2.05 - 2.26	2.00 - 2.24	1.97 - 2.25	1.99 - 2.22
F30	F36	F46	F54	F60
1.98 - 2.21	1.93 - 2.11	1.92 - 2.10	1.90 - 2.08	1.87 - 2.05
F70	F80	F90	F100	F120
1.86 - 2.04	1.85 - 2.04	1.85 - 2.03	1.85 - 2.03	1.88 - 2.02
F150	F180	F220		
1.88 - 2.01	1.88 - 2.00	1.88 - 2.00		

AZS25-F Bulk Density(g/cm3)

F4	F6	F8	F10	F12
-	-	2.30 - 2.44	2.42 - 2.53	2.38 - 2.50
F14	F16	F20	F24	F30
2.35 - 2.46	2.31 - 2.43	2.28 - 2.40	2.25 - 2.36	2.23 - 2.34

Typical Application

AZF25 Typical Uses

Heavy Duty Bonded Abrasives

- Large diameter Cut-Off Wheels
- Hot-Cutting operations
- High pressure rough grinding operation
- Hot-pressed wheels
- Rail grinding operations (high force)
- Blasting

AZS25 Typical Uses

Extra Duty Bonded Abrasives

- Cut-Off Wheels
- Pressure blasting
- Hot-Cutting operations
- high pressure rough grinding operation
- Hot-pressed wheels
- Rail grinding operations (high force)

AZ25-F grade Grain sizes

Grain	Sieve 1		Sieve 2		Sieve 3		Sieve 3 + Sieve 4		Sieve 5	
	mesh	%	mesh	%	mesh	%	mesh	%	mesh	%
F4	+5/16	0	+3.5	0 - 20	+4	40+	+4 +5	70+	-6	0-5
F6	+3.5	0	+5	15 - 30	+6	35+	+6 +7	55+	-8	0-3
F8	+4	0	+6	8 - 23	+7	30+	+7 +8	65+	-10	0-3
F10	+5	0	+7	2 - 17	+8	20+	+8 +10	60+	-12	0-5
F12	+6	0	+8	1 - 16	+10	20+	+10 +12	60+	-14	0-5
F14	+8	0	+12	20 - 40	+14	35+	+14 +16	60+	-18	0-5
F16	+10	0	+14	5 - 25	+16	30+	+16 +18	60+	-20	0-5
F20	+12	0	+16	0 - 20	+18	25+	+18 +20	60+	-25	0-10
F22	+14	0	+18	0 - 25	+20	45+	+20 +25	65+	-30	0-3
F24	+16	0	+20	0 - 25	+25	45+	+25 +30	65+	-35	0-3
F30	+18	0	+25	0 - 25	+30	45+	+30 +35	65+	-40	0-3
F36	+20	0	+30	0 - 25	+35	45+	+35 +40	65+	-45	0-3
F46	+25	0	+40	0 - 30	+45	30+	+45 +50	65+	-70	0-5
F54	+30	0	+45	0 - 35	+50	25+	+50 +60	60+	-80	0-5
F60	+35	0	+50	0 - 35	+60	35+	+60 +70	60+	-100	0-5
F70	+40	0	+60	0 - 25	+70	35+	+70 +80	65+	-120	0-5

F80	+45	0	+70	0 - 35	+80	30+	+80 +100	60+	-140	0-5
F90	+50	0	+80	0 - 25	+100	35+	+100 +120	60+	-170	0-5
F100	+60	0	+100	0 - 25	+120	30+	+120 +140	55+	-230	0-5
F120	+70	0	+120	0 - 25	+140	20+	+140 +170	50+	-270	0-5
F150	+80	0	+140	0 - 25	+200	30+	+200 +230	60+	-325	0-5
F180	+80	0	+170	0 - 20	+230	30+	+230 +270	60+	-	-
F220	+100	0	+200	0 - 15	+270	30+	+270 +325	50+	-	-

AZS25 Grain sizes

Grain	Sieve 1		Sieve 2		Sieve 3		Sieve 3 + Sieve 4		Sieve 5	
	mesh	%	mesh	%	mesh	%	mesh	%	mesh	%
F4	+2.5	0	+3.5	5 - 15	+4	30+	+4 +5	60+	-6	0-5
F6	+3.5	0	+5	15 - 30	+6	35+	+6 +7	55+	-8	0-3
F8	+4	0	+6	9 - 24	+7	30+	+7 +8	65+	-10	0-3
F10	+5	0	+7	2 - 17	+8	20+	+8 +10	60+	-12	0-3
F12	+6	0	+8	2 - 17	+10	20+	+10 +12	60+	-14	0-5
F14	+8	0	+12	20 - 40	+14	35+	+14 +16	60+	-18	0-5
F16	+10	0	+14	5 - 25	+16	30+	+16 +18	60+	-20	0-5
F20	+12	0	+16	0 - 20	+18	25+	+18 +20	60+	-25	0-10
F24	+16	0	+20	0 - 25	+25	45+	+25 +30	65+	-35	0-3
F30	+18	0	+25	0 - 25	+30	45+	+30 +35	65+	-40	0-3
F36	+20	0	+30	0 - 25	+35	45+	+35 +40	65+	-45	0-3

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