

# AZ40

## FOR COATED ABRASIVES

CODE : 1565/1575

### Description

By controlling the crystal size and microstructure. **AZ-40 1565/1575** alumina zirconia grains for Coated Abrasives reside at the true abrasive eutectic alloy of alumina and zirconia, creating an extremely fine crystalline microstructure.

This structure allows for an excellent cut rate at low pressures, outperforming commodity abrasives such as brown fused aluminum oxide and silicon carbide. Because of the unique fracture properties, these materials continually cut on a microscopic scale, allowing for faster cutting action with extended grain life.

### Physical Properties (Typical)

Crystal Size	12 microns	Melting Point	1890 °C
Specific Gravity (g/cm <sup>3</sup> )	4.60	Loose Packed Density (g/cm <sup>3</sup> )	1.715-2.220
Vickers Hardness	19 GPA for 50 gram load		

### Chemical Properties (Typical)

Al <sub>2</sub> O <sub>3</sub>	60.0%	ZrO <sub>2</sub>	39.0%
TiO <sub>2</sub>	0.15%	SiO <sub>2</sub>	0.10%
Fe <sub>2</sub> O <sub>3</sub>	0.15%	Na <sub>2</sub> O	0.03%
CaO	0.09%	MgO	0.02%
Y <sub>2</sub> O <sub>3</sub>	0.65%	-	-

### Application

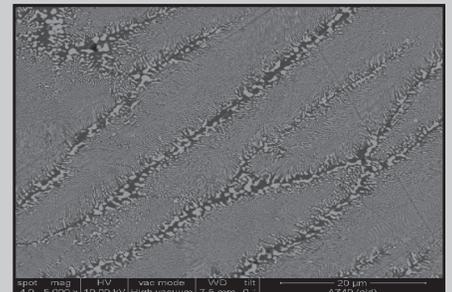
Code	Treatment	Grain Shape	Sizing Convention	Grit Size	Application
1565	Untreated	Weak	Modified FEPA P	P20-P220	Coated
1575	Treated				

### Packing Term

25 KG / Paper bag



Macrostructure of AZ-40 grains



Microstructure of AZ-40 grains (SEM)

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### Partical Size Distribution\* & Loose Packed Density Specification

Grits Size	Oversize	Coarse	1 <sup>st</sup> Nominal	2 <sup>nd</sup> Nominal	Fines	Pan	LPD
	1	2	2+3	2+3+4	2+3+4+5	-5	g/cm <sup>3</sup>
P20	+12	+16	+16+18	+16+18+20	+16+18+20+25	-25	2.121-2.220
	0	0-7	34-50	80-92	96+	0-4	
P24	+14	+18	+18+20	+18+20+25	+18+20+25+30	-30	<2.160
	0	0-1	10-18	52-70	92+	0-8	
P30	+16	+20	+20+25	+20+25+30	+20+25+30+35	-35	<2.160
	0	0-1	10-18	52-70	92+	0-8	
36T	+18	+25	+25+30	+25+30+35	+25+30+35+40	-40	<2.100
	0	0-5	14-28	58-76	90+	0-10	
40T	+25	+35	+35+40	+35+40+45	+35+40+45+50	-50	<2.050
	0	4-15	48-73	85-97	95+	0-5	
40SP	+18	+30	+30+35	+30+35+40	+30+35+40+50	-50	<2.091
	0	5-20	35-50	60-75	90+	0-10	
50T	+30	+40	+40+45	+40+45+50	+40+45+50+60	-60	<1.970
	0	3-10	36-52	80-92	94+	0-6	
60T	+35	+45	+45+50	+45+50+60	+45+50+60+70	-70	<1.950
	0	0-7	15-35	56-74	92+	0-8	
80T	+45	+60	+60+70	+60+70+80	+60+70+80+100	-100	<1.970
	0	0-7	15-35	56-74	92+	0-8	
P100	+50	+70	+70+80	+70+80+100	+70+80+100+120	-120	<1.920
	0	0-1	10-18	52-70	92+	0-8	
P120	+70	+100	+100+120	+100+120+140	+100+120+140+170	-170	<1.930
	0	0-7	34-50	80-92	96+	0-4	
P150	+80	+120	+120+140	+120+140+170	+120+140+170+200	-200	1.770-1.870
	0	0-3	20-32	66-84	96+	0-4	
P180	+100	+140	+140+170	+140+170+200	+140+170+200+230	-230	1.770-1.870
	0	0-2	10-20	50-74	90+	0-10	
P220	+120	+170	+170+200	+170+200+230	+170+200+230+270	-270	1.715-1.800
	0	0-2	10-20	50-74	90+	0-10	

\*Modified FEPA P

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