

# AZ40 for Bonded Abrasives

## Product Codes: 1564 and 1578

### Description

**AZ40 1564/1578** – Special eutectic alloy containing about 40Wt% Zirconia produced by fusing Zirconia and Alumina at about 1900°C in electric arc furnace. This specific process develops a very small crystal size and unique columnar eutectic microstructures, generating high self-dressing ability.

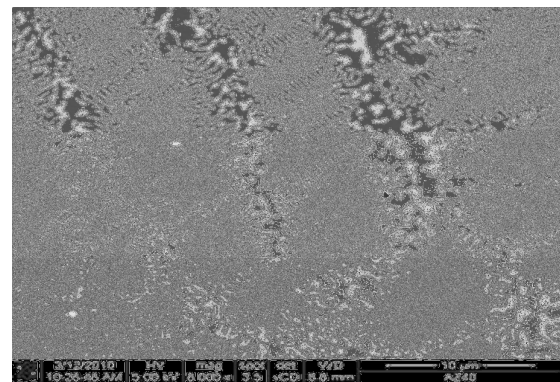
Zirconia participant as well as the special microstructures provides good hardness & high toughness to abrasive grains, which show great lifetime and cutting/grinding efficiency on bonded abrasive.

### Typical Chemical Components

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%

### Physical Properties

Crystal Size	~12μm
Specific Gravity	4.60 g/cm <sup>3</sup>
Melting Point	1890 °C
Vickers Hardness	19 Gpa for 50 gram load
Loose Packed Density	1.90-2.30 g/cm <sup>3</sup>

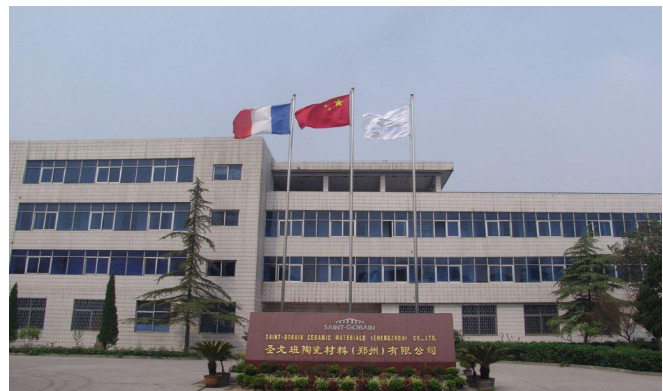


### Application

AZ40 1564/1578 is used for Resin bonded abrasive which requires high lifetime and material removal ability(Ex: Track grinding). 1578 is treated with special coating to improve bonding strength with resin.

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### Particle Size Distribution & Loose Packed Density Specification

Grits	Size Distribution										LPD ( g/cm <sup>3</sup> )	
	①		②		③		③+④		-⑤		1564	1578
F8	+5	0	+7	0-20	+8	45+	+8+10	70+	-12	0-3	—	—
F10	+6	0	+8	0-20	+10	45+	+10+12	70+	-14	0-3	—	—
F12	+7	0	+10	0-20	+12	45+	+12+14	70+	-16	0-3	2.185-2.305	2.225-2.345
F14	+8	0	+12	10-35	+14	30-60	+14+16	55+	-18	0-3	2.165-2.285	2.205-2.325
F16	+10	0	+14	1-20	+16	25-55	+16+18	55+	-20	0-6	2.115-2.235	2.155-2.275
F20	+12	0	+16	0-20	+18	20-50	+18+20	60+	-25	0-10	2.100-2.220	2.140-2.260
F24	+16	0	+20	15-40	+25	35-65	+25+30	55+	-35	0-3	2.095-2.215	2.135-2.255
F30	+18	0	+25	10-35	+30	40+	+30+35	55+	-40	0-3	2.030-2.150	2.070-2.190
F36	+20	0	+30	0-25	+35	45+	+35+40	65+	-45	0-3	1.970-2.090	2.010-2.130
F46	+30	0	+40	0-30	+45	40+	+45+50	65+	-60	0-3	—	—
F54	+35	0	+45	0-30	+50	40+	+50+60	65+	-70	0-3	—	—
F60	+40	0	+50	0-30	+60	40+	+60+70	65+	-80	0-3	—	—
F70	+45	0	+60	0-25	+70	40+	+70+80	65+	-100	0-3	—	—
F80	+50	0	+70	0-25	+80	40+	+80+100	65+	-120	0-3	—	—
F90	+60	0	+80	0-20	+100	40+	+100+120	65+	-140	0-3	—	—
F100	+70	0	+100	0-20	+120	40+	+120+140	65+	-200	0-3	—	—
F120	+80	0	+120	0-20	+140	40+	+120+170	65+	-230	0-3	—	—
F150	+100	0	+140	0-15	+170+200	40+	+170+200+230	65+	-325	0-3	—	—
F180	+120	0	+170	0-15	+200+230	40+	+200+230+270	65+	—	—	—	—
F220	+140	0	+200	0-15	+230+270	40+	+200+270+325	65+	—	—	—	—
F240	+170	0	+200	0-5	+230+270	8+	+230+270+325	38+	—	—	—	—

### Package

25kg / paper bag