

ZHENGZHOU HAIXU ABRASIVES CO.,LTD

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## TECHNICAL DATA SHEET

**PRODUCT:** Ceramic Alumina (Sol-gel Abrasive Grain)

### Ceramic Alumina

SG(Sol-gel) is the ceramic alumina abrasive developed and produced by our company. It's a composition of sub-micro aluminum oxide and lamellar grain containing rare earth materials. The grain combines unique self-sharpening properties with a high hardness and toughness. Ceramic alumina is applied to kinds of bonded abrasive tools with moderate bulk density and nice particle shape. Ceramic Alumina can be used in a wide range of applications and provides highest performance and a long tool life.

### Ceramic Alumina chemical & physical properties

CHEMICAL ANALYSIS	
Al <sub>2</sub> O <sub>3</sub>	94-96%
La <sub>2</sub> O <sub>3</sub>	1-3%
Y <sub>2</sub> O <sub>3</sub>	1-3%
MgO	0.7-3.0%
Other additives	0-1%
TYPICAL PHYSICAL PROPERTIES	
Crystal Size:	50-300 nm
Hardness:	Mohs:9
GPa hardness:	20-21.6 GPa
Melting Point:	2050 °C
Max Service Temperatuer:	1230 °C
Specific Gravity:	3.85-3.95g/cm <sup>3</sup>
Color:	Blue

### Applications

Bonded abrasive tool

Coated abrasive tool

Reusable abrasive

Grinding,lapping & polishing medium

Resin/Ceramic grinding wheels & grinding media

**Typical Size and bulk density:**

Grit designation	Mean diameter in um
F16	1230
F20	1040
F22	885
F24	745
F30	625
F36	525
F40	438
F46	370
F54	310
F60	260
F70	218
F80	185
F90	154
F100	129
F120	109
F150	82
F180	69
F220	58

MICROGRITS	
Grit designation	Mean grain size ds50-value in μm
F 230	53.0 ± 3
F 240	44.5 ± 2
F 280	36.5 ± 1.5
F 320	29.2 ± 1.5
F 360	22.8 ± 1.5
F 400	17.3 ± 1
F 500	12.8 ± 1
F 600	9.3 ± 1
F 800	6.5 ± 1
F 1000	4.5 ± 0.8
F 1200	3.0 ± 0.5

MICROGRITS JIS STANDARD	
Grit Size	Mean grain size ds50-value in μm
JIS240	63.5 ± 3.0
JIS280	56.0 ± 3.0
JIS320	47.0 ± 3.0
JIS360	42.0 ± 2.0

JIS400	$34.0 \pm 2.0$
JIS500	$31.0 \pm 1.5$
JIS600	$27.0 \pm 1.5$
JIS700	$21.0 \pm 1.0$
JIS800	$16.0 \pm 1.0$
JIS1000	$14.0 \pm 1.0$
JIS1200	$11.5 \pm 1.0$
JIS1500	$9.0 \pm 1.0$
JIS2000	$7.0 \pm 1.0$
JIS2500	$5.0 \pm 1.0$
JIS3000	$4.0 \pm 0.5$
JIS4000	$3.0 \pm 0.5$

P-macrogrits sizes coated	
Grit designation	Mean diameter in $\mu\text{m}$
P20	1000
P24	764
P30	642
P36	538
P40	425
P50	336
P60	269
P80	201
P100	162
P120	125
P150	100
P180	82
P220	68

P-microgrits sizes coated	
Grit designation	Mean grain size $d_{s50}$ -value in $\mu\text{m}$
P240	$58.2 \pm 2$
P280	$52.2 \pm 2$
P320	$46.2 \pm 1.5$
P360	$40.5 \pm 1.5$
P400	$35.0 \pm 1.5$
P500	$30.2 \pm 1$
P600	$25.8 \pm 1$
P800	$21.8 \pm 1$
P1000	$18.3 \pm 1$
P1200	$15.3 \pm 1$
P1500	$12.6 \pm 1$
P2000	$10.3 \pm 0.8$

P2500	8.4±0.5
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**Tips**

The shown values are typical characteristics of the material and shall not be used to prepare specifications. They are submitted to tolerances of the production and meet the present standard of technique. We reserve our right for changes within the scope of technical progress or internal improvement.

