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HAIXU ABRASIVES

TECHNICAL DATA SHEET

PRODUCT: Zirconia Fused Alumina

NAME: Zirconia Fused Alumina

Description:

Zirconia Fused Alumina is made of high-purity alumina and zirconium material as raw materials. After high temperature smelting at 2250℃, it is formed by special processing technology and Barmac ball milling. It has high quality, extremely hard, compact structure and special crystals, dendritic eutectic structure. According to the content of ZrO2, zirconium corundum can be divided into ZA25 zirconia Aluminum Oxide (ZrO225%) and ZA40 zirconium Aluminum Oxide (ZrO2 40%).

The biggest feature of zirconium Aluminum Oxide that is different from ordinary corundum and silicon carbide is superior self-sharpening, toughness and wear resistance. Used for making grinding wheels, it can significantly improve the life and sharpness of grinding wheels, and for grinding and cutting workpieces with higher hardness, the wear resistance is particularly obvious. Mainly used in the production of heavy-duty grinding wheels, resin grinding wheels, cutting discs, wear-resistant products, high-end abrasive tools, etc., suitable for steel parts, cast iron parts, heat-resistant steel, titanium alloys, nickel alloys, aluminum alloys, tungsten titanium alloys and other materials The grinding force is higher than that of ordinary corundum products.

Chemical composition		
Item	ZA25	ZA40
AL2O3	70-72%	55-57%
ZrO2	24-30%	35-44%
TiO2	Max 1.0%	Max 0.8%
Fe2O3	Max 0.3%	Max 0.25%
SiO2	Max 0.8%	Max 0.6%
Typical physical properties		
Item	ZA25	ZA40
Specific Gravity	4.30g/cm3	4.60g/cm3
Bulk density(LPD)	1.90-2.30g/cm3	2.15-2.45g/cm3
Knoop hardness	1600	1450
Melting Point	1950℃	1900℃
Particle shape	Monoclinical tetragonal	
Chemical property	Amphoteric	
Reaction with acid and alkali	NO	
Reaction with carbon	Forming carbide since 1650 ℃	
Crystal Size	≤30 μm	
Maximum service temperature	1600 ℃	
Color	Gray	

Specific heat capacity(cal/g.C)	0.2205(50-500℃)
Heat conductivity	0.2718 cal/cm2.sec.℃
Linear expansivity(X10-6)	6.82(100-700℃)

Available Sizes and Bulk Denstiy

ZA25 F-Grit Size	Bulk density (g/cm3)
F8	2.24-2.32
F10	2.19-2.26
F12	2.16-2.24
F14	2.14-2.19
F16	2.12-2.18
F20	2.03-2.16
F22	2.02-2.13
F24	2.00-2.10
F30	1.97-2.06
F36	1.95-2.02
F40	1.93-1.99
F46	1.90-1.98
F54	1.88-1.96
F60	1.86-1.94
F70	1.83-1.92
F80	1.81-1.89

ZA40 F-Grit Size	Bulk density (g/cm3)
F8	2.34-2.38
F10	2.28-2.32
F12	2.26-2.30
F14	2.24-2.28
F16	2.18-2.24
F20	2.15-2.21
F22	2.12-2.18
F24	2.09-2.15
F30	2.00-2.12
F36	1.99-2.10
F40	1.96-2.08
F46	1.91-2.05
F54	1.87-2.03
F60	1.83-2.00
F70	1.80-1.97
F80	1.76-1.89

Reshaped high LPD Zirconia Aluminum Oxide

Bulk density (g/cm3)		
	ZA25	ZA40
F6	2.38-2.43	/
F8	2.36-2.43	/
F10	2.35-2.43	/
F12	2.35-2.40	2.35-2.45
F14	2.34-2.40	2.32-2.40

F16	2.04-2.38	2.32-2.40
F20	2.30-2.37	2.29-2.39
F22	2.26-2.35	2.28-2.38
F24	2.28-2.34	2.28-2.38

Applications

1. Bonded Abrasives:
   Used to produce heavy-duty grinding wheels, barren grinding wheels, rail snagging & grinding wheel, cutting disc, and high-grade resin bonded grinding wheels.
   Abrasive Disc for grinding and cutting difficult to grind materials.
   Raw material for high-end production of cutting discs, grinding discs, polishing wheels, etc.
2. Coated Abrasives:
   Used to produce coated abrasives, such as sandpaper, abrasive belts, flexible polishing wheels, etc., to improve polishing accuracy and work efficiency.
3. Used to produce wear-resistant hammers, wear-resistant rollers and other wear-resistant products.
4. Abrasive sandblasting and surface treatment, suitable for marble, super hard steel and other materials.
5. Used for high-level refractory materials to make zirconia refractory bricks, etc.