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**Alpha Star®**  
**PRODUCT DATA**

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**Description:**

Alpha Star is a homogeneous calcined high alumina aggregate. Specially selected high purity ores are custom processed and calcined to obtain a dense, volume stable aggregate with low apparent porosity. The combination of lower impurities and unique processing results in a consistent high quality aggregate.

**Applications:**

Alpha Star is an ideal aggregate to resist abrasion and hot metal erosion in blast furnace troughs and ladles. Its consistent physical and chemical properties make it ideally suited for low cement, ultra low cement castable and plastic refractory applications.

Chemical Analysis (%):	Typical	Specification	
			<u>DCF</u>
Al <sub>2</sub> O <sub>3</sub>	90.3	89.5 (min)	84.0 (min)
SiO <sub>2</sub>	3.74	--	
Fe <sub>2</sub> O <sub>3</sub>	1.41	1.7 (max)	2.4 (max)
TiO <sub>2</sub>	3.95	4.0 (max)	6.5 (max)
CaO	0.12	--	
MgO	0.13	--	
Na <sub>2</sub> O + K <sub>2</sub> O	0.36	0.40 (max)	
<b>Physical Properties:</b>			
Bulk Density (g/cc)	3.51	3.46 (min)	
Apparent Porosity, %	3.00	--	
Moisture, %	0.10	0.50 (max)	

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901 East Eighth Avenue • King of Prussia, Pennsylvania 19406  
USA • (610) 768-8800



Fax: (610) 337-8122 • [www.ceminerals.com](http://www.ceminerals.com) • [inquire@ceminerals.com](mailto:inquire@ceminerals.com)

## Alpha Star® PRODUCT DATA

### Sizing Specifications Available from China (% Retained)

USS Sieve Grade	5/16" 8.0 mm	0.265" 6.7 mm	¼ 6.3 mm	4 4.75 mm	6 3.35 mm	8 2.36 mm	10 2.0 mm	16 1.18 mm	18 1.0 mm	20 0.85 mm	30 0.6 mm	35 0.5 mm	45 0.355 mm	70 212 µm	100 150 µm	150 100 µm	200 75 µm	270 53 µm	PAN*	
2.5x3	0-7	39-56	19-32	14-31	0-6	0-4														0-2
3x6		0-2		25-53	35-63				0-13											0-2
6x16					0-10	33-50			40-60			0-5								0-2
16x0									0-12			12-34	5-20		20-32		5-20	0-20		5-25
16x30								0-10		30-50	25-45									5-15
16x70							0-5		20-40						55-75					0-5
70x0														0-3	5-15	10-20	10-20			50-70
DCF															0-6		0-6	0-10		60-95

USS Sieve Grade	- 12 mm	4 4.75 mm	5 4.0 mm	6 3.35 mm	- 3.0 mm	7 2.8 mm	10 2.0 mm	12 1.7 mm	14 1.4 mm	18 1.0 mm	25 0.71 mm	35 0.5 mm	40 0.425 mm	60 250 µm	100 150 µm	120 125 µm	200 75 µm	325 45 µm	PAN*	
3x0					<10					>70										10-20
6x0				0-0.3			15.9- 50.3			46.9- 74.9		70.1- 86.9		83.1- 93.5		90.2-96.2	93.4- 97.4			2.6- 6.6
12x0	0-2									>80										7-20
4x10		0-6.1	3.1-26.3			43.1- 69.1	80.4- 91.6	91.5- 97.5												2.5- 8.5
10x35							0-10	1.9-13.5	24.3- 71.9	48.2- 90.2		97.1-100								2.9 max.
35x0											0-5	1-24	16-52		47-73	58-83	71-88			12-29
0-0.3mm														5 max.		43-63	10-20	10-25		5-15
200M															1 max.		10-20			80-90

\*PAN designates the percentage of material passing the last reported screen for each size

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