

## FEATURES & BENEFITS

VANTAGE® refractory grade ball clays are custom blends of highly refractory kaolinitic and illitic clays. These plastic clays can be employed in formulations of cast and pressed refractories, and are commonly used to enhance the formability of calcined clays. Their excellent plasticity and dry strength improve the production rate and shape retention of the refractory, and a high PCE value helps to extend refractory service life.

VANTAGE finds application in a variety of intermediate to high duty firebricks, shapes, insulating bricks and saggars where good shape retention and spalling resistance is required. VANTAGE also serves as the plastic component in monolithic refractories including castable, ramming and gunning mixes and mortars. Of critical importance in these applications is a high alumina to alkali ratio to produce durable, highly refractory materials with excellent stability. VANTAGE particle size distributions will also help to minimize drying shrinkage prior to installation.

All VANTAGE refractory clays are mined and processed under rigid Covia QIP<sup>SM</sup> statistical quality assurance programs. The result is consistent mineralogy, chemical and physical properties, predictable results in demanding refractory applications.

## CHEMICAL AND ANALYTICAL DATA

*Typical Mean Values. These Do Not Represent a Specification.*

Mean Percent By Weight On Oxide Basis	VANTAGE® Grades	
	AT	BL
Silicon Dioxide (SiO <sub>2</sub> )	63.1	60.6
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> )	24.4	26.2
Titanium Dioxide (TiO <sub>2</sub> )	1.2	1.3
Iron Oxide (Fe <sub>2</sub> O <sub>3</sub> )	1.2	1.3
Calcium Oxide (CaO)	0.1	0.1
Magnesium Oxide (MgO)	0.3	0.3
Potassium Oxide (K <sub>2</sub> O)	0.6	0.5
Sodium Oxide (Na <sub>2</sub> O)	0.1	0.1
Loss on Ignition (LOI)	8.7	9.4
Carbon (%C)	0.2	0.3
Sulfur (%S)	0.2	0.2
M.B.I (meq/100g)	10.5	10.7
SSA m <sup>2</sup> /g	24.5	26.5
pH @10% Solids	4.5	4.0
M.O.R. (Dried @ 110°C) (lbf/in <sup>2</sup> )	660	730
% Linear Shrinkage Dry-Fired 1120°C	3.9	5.0
P.C.E.	27	28

## PARTICAL SIZE ANALYSIS AND PROPERTIES

*Typical Mean Values. These Do Not Represent A Specification.*

	Mesh Size	VANTAGE® Grades	
	MICRONS	AT	BL
Typical mean % retained on individual sieves	<20	92	94
	<10	85	89
	<5	78	83
	<2	65	71
	<1	56	62
	<0.5	47	52

## SHIPPING/ORDERING INFORMATION

- Shipping Point: Troup, TX
- Availability: Bulk Only  
Truck and Rail

### CUSTOMER SERVICE

US & Canada: 1-800-243-9004

Fax: 1-800-243-9005

Worldwide: 1-203-442-2500

Fax: 1-203-972-1378

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GRADE NUMBERS INDICATE RELATIVE VALUES OR RESULTS. THEY ARE NOT A SPECIFICATION OR WARRANTY OF PERFORMANCE.

**HEALTH HAZARD WARNING:** Prolonged inhalation of dust associated with the materials described in this data sheet can cause delayed lung injury including Silicosis, a progressive, disabling and sometimes fatal lung disease. IARC and NTP have determined that crystalline silica can cause lung cancer in humans. Risk of injury is dependent on the duration and level of exposure. Follow OSHA or other relevant safety and health standards for the form of crystalline silica called Quartz. Current safety data sheet, containing safety information, is available and should be consulted before usage.

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Silica/Silica Containing

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