

### GENERAL INFORMATION

High Alumina Cement new Calcium Aluminate Cement (CAC) binder system developed for use in highly sophisticated refractory castables. High Alumina Cement is a very reactive, white Calcium Aluminate Cement that combines the high content of the reactive High Alumina Cement provides customers increased flexibility for the formulation of advanced refractory castables.

The use of High Alumina Cement makes it possible to design castable formulations with lower cement content- thus maximizing CO resistance and high temperature performance. High Alumina Cement is recommended for:

Castable types:	RCC, MCC, LCC, ULCC
Installation method:	Vibrational Self Flow Gunning

### TECHNICAL DATA

High Alumina Cement quality is strictly controlled at our production facility. The technical specifications are listed in the tables below. The usual range values are representative production values

### CHEMICAL COMPOSITION

Main Constituents	Usual Range (%)	Specification Limit (%)
Al <sub>2</sub> O <sub>3</sub>	63.0–65.0	> 62.5
CaO	33.0-35.0	< 35.5
SiO <sub>2</sub>	0.20-0.50	
Fe <sub>2</sub> O <sub>3</sub>	0.05-0.20	
MgO	< 0.50	
TiO <sub>2</sub>	< 0.30	
Na <sub>2</sub> O+K <sub>2</sub> O	< 0.40	
SO <sub>3</sub>	< 0.20	

### MINERALOGICAL COMPOSITION

Main mineral phase : CA  
 Minor mineral phases : CA<sub>2</sub>, C<sub>12</sub>A<sub>7</sub>

	Usual Range	Specification Limit
CA (%)	92 - 98	> 90
C <sub>12</sub> A <sub>7</sub> /CA	< 0.02	

### FINENESS

	Usual Range	Specification Limit
Blaine (cm <sup>2</sup> /g):	4300-4700	> 4300
Residue 90µm:		< 5.0

### SETTING TIME AND COMPRESSIVE STRENGTH

The setting time and compressive strength is tested in a Tabular Alumina mortar (10% High Alumina Cement, 90% Tabular Alumina and 10% water addition), in order to describe the behavior of High Alumina Cement in refractory mixtures with a workable consistency. The initial set is the first temperature rise in the exothermic profile, measured by a thermocouple. The final set is determined by the maximum temperature in the exothermic profile.

After setting, strength develops very rapidly. The compressive strength tests are conducted with Tabular Alumina mortar prisms (4 x 4 x 16 cm) which are produced according to modified EN 196-1.

	Tabular Alumina mortar
<b>Initial set</b>	> 160 min
<b>Final set</b>	maximum 350 min after initial set
<b>Compressive Strength 24h</b>	> 20 Mpa

### ADDITIONAL INFORMATION (FOR GUIDANCE ONLY)

Bulk density approx.:	0.9 g/cm <sup>3</sup>
Specific gravity:	2.90–3.05 g/cm <sup>3</sup>
Refractoriness in cement approx.:	1560-1580 °C

### PACKING

50 kg. HDPE Bag

### SHELF LIFE & STORAGE

High Alumina Cement has a shelf life of 6 months from date of manufacture when kept at a temperature between 5°C to 45°C and store in the original, unopened bags. All material shall be stored under cover in a manner that will prevent damage preferable on pallets and protected from excessive heat and moisture. Do not freeze.

### QUALITY ASSURANCE

AMBICA SPECIALITY CHEMICALS is a firm of Assessed Capability. The company's quality system conforms to ISO 9001:2015.

### HEALTH & SAFETY

High Alumina Cement is no-toxic and non-flammable. Avoid inhalation of dust during mixing and wear safety glasses, dust mask and gloves. If skin contact occurs wash thoroughly with clean water. Should eye contact occur rinse immediately with plenty of clean water and seek medical advice. Full health and safety data are given in Product Safety Data Sheet.