

## **CCEFIRE® DEHA Series High Alumina Refractory Brick**

### **Description:**

CCEFIRE® DEHA Series High alumina refractory brick is a kind of neutral refractory material with aluminum content more than 48%. High alumina refractory brick is made through calcination and molding from bauxite and other raw materials with high content of alumina. According to different content of alumina in high alumina brick, its fire resistance, refractoriness under load, compressive strength and other indicators are varied.

### **Technical data and Size:**

<b>CCEFIRE® DEHA Series High Alumina Refractory Brick</b>				
<b>Item</b>	<b>DEHA48</b>	<b>DEHA55</b>	<b>DEHA65</b>	<b>DEHA75</b>
<b>Bulk Density(g/cm³)</b>	2.25	2.35	2.55	2.65
<b>Refractoriness under Load (°C) ≥</b>	1420	1470	1500	1520
<b>Linear Change (%) (2h)</b>	1450 °C -0.5	1500 °C -0.5	1500 °C -0.5	1500 °C -0.5
<b>Porosity (%) ≤</b>	22	22	23	23
<b>Cold Crushing Strength (MPa)</b>	39	44	49	53
<b>Thermal Shock Resistance Water Cold( Cycle)</b>	≥20	≥20	≥20	≥20
<b>Al<sub>2</sub>O<sub>3</sub> (%) ≥</b>	48	55	65	75
<b>Fe<sub>2</sub>O<sub>3</sub></b>	<2.0	<1.8	<1.8	<1.5

**Common size**

230x114x65/75mm

## Raw Materials

Own large-scale ore base, professional mining equipment, and stricter selection of raw materials.

The incoming raw materials are tested first, and then the qualified raw materials are kept in a designated raw material warehouse to ensure their purity.

The raw materials of CCEFIRE High alumina bricks have low impurity content with less than 1% oxides, such as iron and alkali metals. Therefore, CCEFIRE High alumina bricks have high refractoriness.

## Production Process

The fully automated batching system fully guarantees the stability of the raw material composition and better accuracy in raw material ratio.

With internationally advanced automated production lines of high-temp tunnel furnaces, shuttle furnaces, and rotary furnaces, the production processes from raw materials to finished products are under automatic computer-control, ensuring stable product quality.

Automated furnaces, stable temperature control, low thermal conductivity of CCEFIRE insulation bricks, excellent thermal insulation performance, less than 0.5% in the permanent line change, stable quality, and longer service life.

Various shapes of clay bricks can be made according to designs. They have precise dimensions with an error of +1mm and are convenient for customers to install.

## **Quality Control**

Each shipment has a dedicated quality inspector, and a test report is provided prior to the departure of products from the factory to ensure the export quality of each shipment of CCEFIRE.

A third-party inspection (such as SGS, BV, etc.) is accepted.

Production is strictly in accordance with ASTM quality management system certification.

The outer packaging of each carton is made of five layers of kraft paper, and outer packaging + pallet,, suitable for long-distance transportation.

## **Application Performance**

### **1. Refractoriness**

The refractoriness of CCEFIRE high alumina bricks is higher than that of clay refractory bricks and semi-silica bricks, reaching 1750~1790°C, which is a kind of high-grade refractory materials.

### **2. Load softening temperature**

Since high-alumina products have high  $Al_2O_3$ , less impurities, and less fusible glass, the load softening temperature is higher than that of clay bricks, but because mullite crystals do not form a network structure, the load softening temperature is still not as high as silica bricks.

### **3. Slag resistance**

CCEFIRE high-alumina bricks contain more  $Al_2O_3$ , close to the neutral refractory material, so they can resist the erosion of acid slag and alkaline slag. Because of the content of  $SiO_2$ , the resistance to alkaline slag is weaker than to acid slag.

They have a wide range of uses, mainly for lining blast furnaces, hot blast furnaces, electric furnace tops, blast furnaces, reverberatory furnaces, and rotary furnaces. In addition, high alumina bricks are also widely used as heat-storage checker bricks for open hearths, plugs for pouring systems, nozzle bricks, etc.