

# **Unburned Alkali-Resistance Insulating Brick(GN-CKU)**

## Characteristics of GN-CKU

GN-CKU has excellent insulation and lightweight due to its special porous structure. Generally, porous structure of refractories causes reduction of strength, stability of volume expansion, abrasion resistance and corrosion resistance. However, GN-CKU compensates weakness of porous structure by applying special binders .

As compared with the existing burned insulation brick, crack growth in GN-CKU tends to be shallow and small like alkali-corrosion and then it's suitable to installation of Cement Rotary Kiln since refractory of hot surface in a cement Rotary Kiln can be greatly influenced by alkali-resistance. GN-CKU itself reacts with alkali and forms thin coating of erosion resistance. GN-CKU has structural flexibility and high stress relaxation. GN-CKU can reduce growth of cracks by protecting between alkali and insulation Brick.

- ▶ Used lightweight aggregate which has low bulk-density, high strength
- ▶ Special materials for joints
- ▶ Unburned brick by using special binder

## Quality Characteristics

- ▶ Excellent insulation , Reduction of heat loss from the kiln shell.
- ▶ Matrix structural small pores, excellent alkali resistance.
- ▶ Good structural flexibility at high temperature  
Stress-relaxation, Excellent Spalling resistance.
- ▶ Excellent abrasion resistance.
- ▶ Excellent thermal expansion by applying lightweight aggregates which are calcined at high temperature.
- ▶ Easy installation

## ■ Technical Data

Grade	UNIT	SPEC	TYPICAL
Max. Service Temperature	℃		
		1350	1350
Refractoriness			
		≥ 30	31
Apparent Porosity	%		
		≤ 35	33.5
Absorption	%		
		≤ 20	18.7
Bulk Density	g/cm <sup>3</sup>		
		Max. 1.85	1.8
Cold Crushing Strength	MPa		
		≥ 15	18
Modulus of Rupture	kg/cm <sup>2</sup>		
	@ room	-	35
Thermal Expansion	%		
	@ 1000℃	-	0.35
Permanent Linear Change	%		
	@ 1300℃ x 8hrs	-1.0	-0.5
Thermal Conductivity	Kcal/m·h℃		
	@ 350℃	-	0.52
Chemical Analysis	%		
Silica	SiO <sub>2</sub>	≤ 55.00	48.05
Alumina	Al <sub>2</sub> O <sub>3</sub>	≥ 30.00	35.05
Magnesia	MgO	Max. 3.50	2.05
Iron Oxides	Fe <sub>2</sub> O <sub>3</sub>	Max. 7.00	5.68
Titanium Dioxide	TiO <sub>2</sub>	Max. 2.00	1.05