



## REFRACTORIES FOR CEMENT INDUSTRY

“Universal Exports FZE” Co., Ltd is the official representative of “Puyang Refractories Group” Co., Ltd

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## Greeting from Chairman of the Board

**Chairman of the Board: Mr. Baikuan Liu**

Professional Level Senior Engineer  
Refractory Specialist and Visiting Scholar in USA  
Chairman of the Board of PRCO  
Vice-President of the Association of China Refractories Industry  
President of the Association of Henan Refractory Manufacturers  
Professor of Wuhan University of Science and Technology, Beijing  
University of Science and Technology and Xi'an University of  
Architecture and Technology  
Member of the American Ceramic Society  
Representative of the People's Congress of Henan Province  
National Labor Medal  
Winner of the China Best Creation Wealth & Innovation Award

Dear friends,

On behalf of the board of directors, as well as the staffs of PRCO GROUP, I would like to express our sincere appreciation to our customers both at home and abroad, and extend our earnest greetings to every customer and friend who care about us and support PRCO Group's development.

It is our goal to create wealth with diligence, reduce costs with technology and make friends with honesty. Our developing target is to become one of the largest multinational corporations and provide excellent service to the global high temperature industry.

PRCO Group will continue to take new roads to industrialization, pursue long-term sustainable and healthy development and create more values for our shareholders, customers, employees, suppliers and society.

PRCO Group will continue to build up friendships with our stakeholders and develop long-term technology and business relationships with global customers and partners for our mutual benefits.

Welcome to PRCO Group!

Chairman of the Board:

A handwritten signature in black ink, consisting of the Chinese characters '刘百宽' (Liu Baikuan).





## Company profiles

Puyang Refractories Group Co., Ltd (PRCO®) is a publicly listed and globally operating company specialized in refractories. With years of development, PRCO has become a leading comprehensive refractory company in China combined with refractory production, engineering, design, research & development and service. It is now the largest refractories manufacturer in China.

With advanced production facilities and thorough quality assurance system, PRCO can manufacture extensive refractories that are widely used in high temperature furnaces and kilns in steel, cement, lime, non-ferrous metals, energy, chemical and petrochemical industries, such as EAF, converter, ladle, tundish, reheating furnace, aluminium smelter, boilers, and rotary kiln etc. Its main products include purging plug, slide plates, stopper, ladle shroud, submerged entry nozzle (SEN), magnesia carbon brick, Si<sub>3</sub>N<sub>4</sub> bonded SiC brick, and monolithics. Besides the standard range of products, PRCO also produces tailor-made refractories to meet the specific needs of consumers. Based in Puyang (Headquarters), China, PRCO has also established its own production facilities in Liaoning, Kunming, Shanghai, Shanxi, and Tibet.

With many years' operation under ISO quality system, PRCO has established thorough quality assurance system, which guarantees the top and consistent quality. At every stage of production we have checks and documentation of all our checks. These are fed into a centralized database and then they form a basis of evaluation and suitable action. The quality assurance is maintained starting from raw material selection and approval, process of manufacturing, checking of finished products, etc. All the tests are carried out as per international standards in our well-equipped laboratories.

PRCO also provides customers with the highest standards of services. It has established sales & service offices and subsidiaries in major industrial countries and regions. The world wide sales & service network and specialists with many years' refractory application experience can provide customers with prompt, flexible and customized services including refractory engineering, installation, maintenance, trouble shooting, etc. No matter where you are located and what size you are, you will receive our utmost attention.

PRCO would like to develop long term relationship with our esteemed consumers. The long term relationship means reliability in quality consistency, timely delivery, cost reduction, convenient logistic plan and more, which will definitely bring customers supreme benefits. PRCO will be your reliable partner on refractories for high temperature industry.

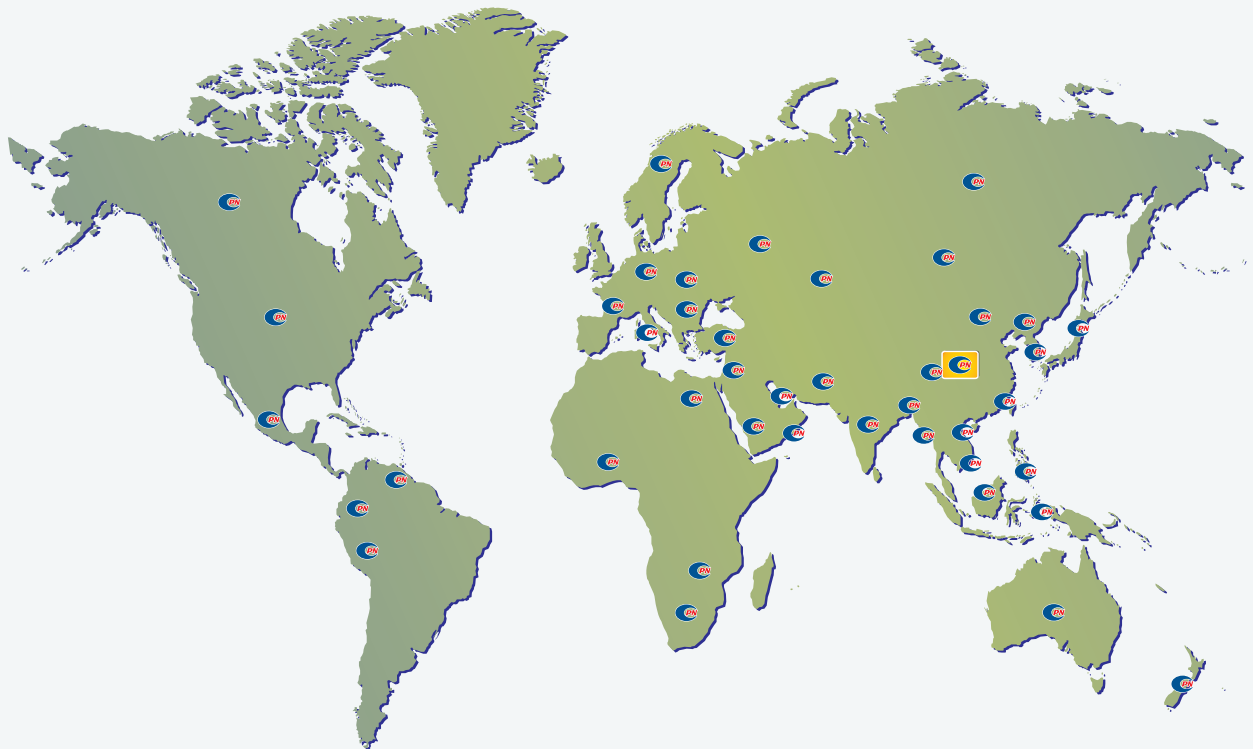


## Marketing Network

As the largest refractories manufacturer in China, PRCO is committed to serve the global high temperature industries by providing customers with excellent products and system solutions.

At present, PRCO has subsidiaries and branches in China, Ukraine, United States, Russia, South Korea, India and other countries and also has more than 50 offices around the world. Through its extensive marketing and service network, PRCO has been providing quality products and services to about 70 of the world's top 100 Iron and Steel enterprises

PRCO products have been widely used in Steel, Cement, Lime, Non-ferrous metals, Energy, Chemical and petrochemical industries, and its products are regularly exported to the America, Europe, CIS countries, Southeast Asia, Africa, Middle East, and other countries and regions.







## Refractories for Cement Industry



Refractories Experts for high-temperature industry

**PRCO • World**

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### Spalling resistant corundum castable PN-TC18

Performance characteristics are as follows:

- Very high refractoriness under load, using corundum and activated alumina as main components;
- A dense liquid film formed on the lining surface which has good alkali resistance under high temperatures;
- In-situ mullite phase forms in the matrix at high temperature which possesses excellent thermal shock and wear resistance.

The castable can be used for lining of the kiln outlet and coal injection pipe.

#### Technical data

Item		Spalling Resistant Corundum Castable
Brand		PN-TC18
Max Service Temperature (°C)		1700
Chemistry (%)	Al <sub>2</sub> O <sub>3</sub> +SiC	≥85
Bulk Density (kg/m <sup>3</sup> )	110°C × 24h	≥2750
Modulus of Rupture (Mpa)	110°C × 24h	≥8
	1100°C × 3h	≥9
	1400°C × 3h	≥9
Cold Crushing Strength (Mpa)	110°C × 24h	≥75
	1100°C × 3h	≥90
	1400°C × 3h	≥90
Linear Change (%)	1100°C × 3h	± 0.3
	1400°C × 3h	± 0.5
Abrasion Resistance (cc)	1000°C × 3h	≤5
Alkali Resistance at 1350°C		Above Grade II





## Ultra low cement castable PN-AM17

Performance characteristics are as follows:

- High refractoriness under load;
- Excellent thermal shock and spalling resistance;
- Excellent wear resistance;
- Under high temperature, a compact protective film forms on the lining surface which has good clinker liquid phase corrosion and alkali resistance.

The castable can be used for lining of the kiln outlet and inlet.

### Technical data

Item		Ultra Low Cement Castable
Brand		PN-AM17
Max Service Temperature (°C)		1700
Chemistry (%)	Al <sub>2</sub> O <sub>3</sub> +SiC	≥ 70
Bulk Density (kg/m <sup>3</sup> )	110°C × 24h	≥ 2500
Modulus of Rupture (Mpa)	110°C × 24h	≥ 7
	1100°C × 3h	≥ 8
	1400°C × 3h	≥ 8
Cold Crushing Strength (Mpa)	110°C × 24h	≥ 60
	1100°C × 3h	≥ 75
	1400°C × 3h	≥ 80
Linear Change (%)	1100°C × 3h	± 0.2
	1400°C × 3h	± 0.4
Abrasion Resistance (cc)	1000°C × 3h	≤ 6
Alkali Resistance at 1350°C		Above Grade II

## Corundum mullite refractory castable PN-MT17

Performance characteristics are as follows:

- Excellent wear resistance;
- Good alkali resistance;
- In-situ mullite phase forms in the matrix at high temperature which possesses excellent thermal shock resistance and good thermal strength.

The castable can be used for lining of the coal injection pipe.

### Technical data

Item		Corundum Mullite Refractory Castable
Brand		PN-MT17
Max Service Temperature (°C)		1650
Chemistry (%)	Al <sub>2</sub> O <sub>3</sub> +SiC	≥ 75
Bulk Density (kg/m <sup>3</sup> )	110°C × 24h	≥ 2650
Modulus of Rupture (Mpa)	110°C × 24h	≥ 8
	1100°C × 3h	≥ 9
	1400°C × 3h	≥ 9
Cold Crushing Strength (Mpa)	110°C × 24h	≥ 75
	1100°C × 3h	≥ 85
	1400°C × 3h	≥ 85
Linear Change (%)	1100°C × 3h	± 0.3
	1400°C × 3h	± 0.4
Abrasion Resistance (cc)	1100°C × 3h	≤ 6
Alkali Resistance at 1350°C		Above Grade II





## High wear resistant low cement castable PN-BM16

Performance characteristics are as follows:

- Super wear resistance;
- Excellent thermal shock resistance;
- Good alkali resistance.

It can be used for lining after the kiln outlet, elbow of tertiary air duct, the wind valve, throat and wall of grate cooler, settling chamber for cement kiln waste heat power generation.

### Technical data

Item		High Wear Resistant Low Cement Castable
Brand		PN-BM16
Max Service Temperature (°C)		1600
Chemistry (%)	Al <sub>2</sub> O <sub>3</sub>	≥ 70
Bulk Density (kg/m <sup>3</sup> )	110°C × 24h	≥ 2650
Modulus of Rupture (Mpa)	110°C × 24h	≥ 9
	1100°C × 3h	≥ 9
Cold Crushing Strength (Mpa)	110°C × 24h	≥ 80
	1100°C × 3h	≥ 90
Linear Change (%)	1100°C × 3h	± 0.4
Abrasion Resistance (cc)	1100°C × 3h	≤ 5

### Anti-skinning silicon carbide castable PN-SC13

Performance characteristics are as follows:

- Dense and smooth liquid membrane forms on the surface of the lining at high temperatures which can effectively prevent the alkali erosion, and also has excellent anti-skinning feature;
- The aggregate is of high hardness, matrix combined with technology of superfine powder is of good wear resistance;
- Excellent thermal shock resistance.

It can be used for the linings of the cone section of pre-calcination kiln, the fume chamber, four or five stage preheater cone and the feeding tube.

#### Technical data

Item		Anti-Skinning Silicon Carbide Castable
Brand		PN-SC13
Max Service Temperature (°C)		1400
Chemistry (%)	SiC	15~30
Bulk Density (kg/m <sup>3</sup> )	110°C × 24h	≥2400
Modulus of Rupture (Mpa)	110°C × 24h	≥8
	1100°C × 3h	≥8
Cold Crushing Strength (Mpa)	110°C × 24h	≥70
	1100°C × 3h	≥80
Linear Change (%)	1100°C × 3h	± 0.4
Abrasion Resistance (cc)	1100°C × 3h	≤8
Alkali Resistance at 1100°C		Grade I



## High strength anti-corrosion anti-cracks castable PN-BSC16

Performance characteristics are as follows:

- Special grade bauxite is used as aggregate and the matrix composition is strictly controlled, so it has very high resistance to spalling and wear ;
- It has very good explosion proof performance, and the maintenance cycle is short;
- It has good alkali resistance.

It can be used for linings of the door hood, the throat of grate cooler, high temperature side walls and roof, decomposing furnace and kiln inlet.

### Technical data

Item		High Strength Anti-Corrosion Anti-Cracks Castable
Brand		PN-BSC16
Max Service Temperature (°C)		1600
Chemistry (%)	Al <sub>2</sub> O <sub>3</sub>	≥70
Bulk Density (kg/m <sup>3</sup> )	110°C × 24h	≥2550
Modulus of Rupture (Mpa)	110°C × 24h	≥8
	1100°C × 3h	≥8
Cold Crushing Strength (Mpa)	110°C × 24h	≥75
	1100°C × 3h	≥80
Linear Change (%)	1100°C × 3h	± 0.4
Abrasion Resistance (cc)	1100°C × 3h	≤8

## Explosion proof low cement castable PN-BP15

Performance characteristics are as follows:

- High strength and good wear resistance, because top quality bauxite is used as aggregate and ultrafine powder is added
- Ultrafast drying characteristic with good explosion resistance, which can meet the need of rush repair.

It can be used for linings of cement pre-calcination kiln, furnace door cover, middle temperature part of the grate cooler and straight section of tertiary air duct.

### Technical data

Item		Low Cement Crack-Proof Castable
Brand		PN-BP15
Max Service Temperature (°C)		1500
Chemistry (%)	Al <sub>2</sub> O <sub>3</sub>	≥70
Bulk Density (kg/m <sup>3</sup> )	110°C × 24h	≥2500
Modulus of Rupture (Mpa)	110°C × 24h	≥7
	1100°C × 3h	≥8
Cold Crushing Strength (Mpa)	110°C × 24h	≥70
	1100°C × 3h	≥80
Linear Change (%)	1100°C × 3h	± 0.4



## High-strength alkali-resistant castable PN-BP14

Performance characteristics are as follows:

- High siliceous raw material is used, the alumo-silicate component in the lining reacts with alkali at high temperature to form high viscosity liquid layer, which prevents erosion of alkali gas and enhances alkali resistant performance of the lining;

- Anti-skinning formation.

It can be used for the lining of the preheater system and cooling section of grate cooler.

### Technical data

Item		High Strength Alkali-Resistant Castable
Brand		PN-BP14
Max Service Temperature (°C)		1400
Chemistry (%)	SiO <sub>2</sub>	≥ 40
Bulk Density (kg/m <sup>3</sup> )	110°C × 24h	≥ 2100
Modulus of Rupture (Mpa)	110°C × 24h	≥ 6
	1100°C × 3h	≥ 7
Cold Crushing Strength (Mpa)	110°C × 24h	≥ 60
	1100°C × 3h	≥ 70
Linear Change (%)	1100°C × 3h	± 0.5
Alkali Resistance at 1100°C		Above Grade II

### High strength wear-resistant plastic mixes PN-NMK75

Performance characteristics are as follows:

- Phosphate bonded plastic mixes with strong flexibility and good thermal shock resistance;
- Excellent wear resistance and resistance to erosion of high concentration and high speed dust;
- Good plasticity, easily tamping, smooth surface after construction, not swollen, easy construction for special-shaped parts.

It can be used for linings of waste heat power generation settling chamber and partial repair.

#### Technical data

Item		High Strength Wear-Resistant Plastic Mixes
Brand		PN-NMK75
Max Service Temperature (°C)		1400
Chemistry (%)	Al <sub>2</sub> O <sub>3</sub>	≥75
Bulk Density (kg/m <sup>3</sup> )	110°C × 24h	≥2600
Modulus of Rupture (Mpa)	110°C × 24h	≥6
	1100°C × 3h	≥10
Cold Crushing Strength (Mpa)	110°C × 24h	≥60
	1100°C × 3h	≥90
Linear Change (%)	1100°C × 3h	± 0.4
Abrasion Resistance (cc)	1100°C × 3h	≤5





## Direct-bonded magnesia-chrome brick PN-DMC3

It has excellent micro structural flexibility and good kiln coating formation ability, suitable for burning zone of rotary kiln.

1.Low chrome type(PN-DMC3) is suitable for burning zone of 2500t/d rotary kiln

### Technical data

Item		Direct-Bonded Magnesia-Chrome Brick
Brand		PN-DMC3
Chemistry (%)	MgO	≥75
	Cr <sub>2</sub> O <sub>3</sub>	3~4
	Al <sub>2</sub> O <sub>3</sub>	7~8
	Fe <sub>2</sub> O <sub>3</sub>	2.5~3.5
	SiO <sub>2</sub>	≤2.5
Bulk Density (kg/m <sup>3</sup> )		≥2900
Cold Crushing Strength (MPa)		≥40
0.2MPa Refractoriness Under Load (°C)		1600
Thermal Conductivity (W/m · K)	1000°C	2.1
Thermal Expansion (%)	1000°C	1.05
Apparent Porosity (%)		≤18
Thermal Shock Resistance, 1100°C, Water Cooling (Times)		≥4

2.PN-DMC8 is suitable for burning zones of 5000t/d to 10000t/d rotary kilns

### Technical data

Item		Direct-Bonded Magnesia-Chrome Brick
Brand		PN-DMC8
Chemistry (%)	MgO	$\geq 70$
	Cr <sub>2</sub> O <sub>3</sub>	7~10
	Al <sub>2</sub> O <sub>3</sub>	2.5~4
	Fe <sub>2</sub> O <sub>3</sub>	5~6
	SiO <sub>2</sub>	$\leq 2.5$
Bulk Density (kg/m <sup>3</sup> )		$\geq 2900$
Cold Crushing Strength (MPa)		$\geq 45$
0.2MPa Refractoriness Under Load (°C)		1600
Thermal Conductivity (W/m · K)	1000°C	2.1
Thermal Expansion (%)	1000°C	1.05
Apparent Porosity (%)		$\leq 18$
Thermal Shock Resistance, 1100°C, Water Cooling (Times)		$\geq 4$



## Magnesia hercynite spinel brick

It is chrome-free and suitable for rotary kiln burning zone and transition zone, and it has good property of adhering coating.

### Technical data

Item		Magnesia Hercynite Spinel Brick
Brand		PN-MAF
Chemistry (%)	MgO	88~92
	Al <sub>2</sub> O <sub>3</sub>	3.5~4.5
	Fe <sub>2</sub> O <sub>3</sub>	4~4.5
	CaO	1.2~1.5
	SiO <sub>2</sub>	0.5~1.0
Bulk Density (kg/m <sup>3</sup> )		≥2900
Cold Crushing Strength (MPa)		≥70
0.2MPa Refractoriness Under Load (°C)		1700
Thermal Conductivity (W/m · K)	1000°C	2.7
Thermal Expansion (%)	1000°C	1.2
Apparent Porosity (%)		≤16
Thermal Shock Resistance, 950°C, Air Cooling (Times)		≥100

### Silicon carbide mullite brick

It has strong structural strength at high temperatures, good thermal shock resistance, and good wear resistance, which is suitable for transition zone and safety zone of rotary kiln.

**Technical data**  
**PN-SA1680 is suitable for upper and lower transition zones of rotary kiln**

Item		Silicon Carbide Mullite Brick 1680
Brand		PN-SA1680
Chemistry (%)	Al <sub>2</sub> O <sub>3</sub>	≥65
	Fe <sub>2</sub> O <sub>3</sub>	≤2.0
Bulk Density (kg/m <sup>3</sup> )		≥2650
Cold Crushing Strength (MPa)		≥85
Abrasion Resistance (cc)		≤5
0.2MPa Refractoriness Under Load (°C)		1680
Thermal Expansion (%)	1000°C	0.60
Apparent Porosity (%)		≤18
Thermal Shock Resistance, 1100°C, Water Cooling (Times)		≥15



**PN-SA1650 is suitable for upper and lower transition zones of rotary kiln**

Item		Silicon Carbide Mullite Brick 1650
Brand		PN-SA1650
Chemistry (%)	Al <sub>2</sub> O <sub>3</sub>	≥62
	Fe <sub>2</sub> O <sub>3</sub>	≤2.0
Bulk Density (kg/m <sup>3</sup> )		≥2600
Cold Crushing Strength (MPa)		≥80
Abrasion Resistance (cc)		≤6
0.2MPa Refractoriness Under Load (°C)		1650
Thermal Expansion (%)	1000°C	0.60
Apparent Porosity (%)		≤18
Thermal Shock Resistance, 1100°C, Water Cooling (Times)		≥15

**PN-SA1550 is suitable for rotary kiln safety zone**

Item		Silicon Carbide Mullite Brick 1550
Brand		PN-SA1550
Chemistry (%)	Al <sub>2</sub> O <sub>3</sub>	≥60
Refractoriness (°C)		≥1790
Bulk Density (kg/m <sup>3</sup> )		≥2550
Cold Crushing Strength (MPa)		≥80
Abrasion Resistance (cc)		≤8
0.2MPa Refractoriness Under Load (°C)		1550
Thermal Expansion (%)	1000°C	0.60
Apparent Porosity (%)		≤20
Thermal Shock Resistance, 1100°C, Water Cooling (Times)		≥15

## Magnesia spinel brick

Performance characteristics are as follows:

- High cold crushing strength, good structural strength at high temperature;
- Doesn't hitch the surface of kilns;
- Good wear resistance;

It is suitable for upper and lower transition zones of rotary kiln.

### Technical data

Item		Magnesia Spinel Brick
Brand		PN-MA
Chemistry (%)	MgO	≥85
	Al <sub>2</sub> O <sub>3</sub>	5~10
	SiO <sub>2</sub>	≤1.0
Bulk Density (kg/m <sup>3</sup> )		≥2800
Cold Crushing Strength (MPa)		≥45
0.2MPa Refractoriness Under Load (°C)		1650
Thermal Conductivity (W/m · K)	1000°C	2.7
Thermal Expansion (%)	1000°C	1.2
Apparent Porosity (%)		≤18
Thermal Shock Resistance, 1100°C, Water Cooling (Times)		≥10





## Anti-spalling high-alumina brick

It has strong anti-spalling property, lower thermal conductivity and good erosion resistance to alkali salt, suitable for linings of the safety zone of small-sized rotary kiln, and also for safety zone and calcining zone of large-sized rotary kiln.

### Technical data

Item		Anti-Spalling High Alumina Brick
Brand		PN-RSA70
Chemistry (%)	Al <sub>2</sub> O <sub>3</sub>	≥70
	Fe <sub>2</sub> O <sub>3</sub>	≤1.5
Bulk Density (kg/m <sup>3</sup> )		≥2500
Cold Crushing Strength (MPa)		≥50
0.2MPa Refractoriness Under Load (°C)		1470
Thermal Conductivity (W/m · K)	1000°C	1.4
Apparent Porosity (%)		≤20
Thermal Shock Resistance, 1100°C, Water Cooling (Times)		≥20

## High-strength alkali-resistant brick

It features excellent alkali erosion resistance and good thermal shock resistance, suitable for preheater at kiln inlet.

### Technical data

Item		High Strength Alkali Resistant Brick
Brand		PN-RKH
Chemistry (%)	Al <sub>2</sub> O <sub>3</sub>	25~35
	SiO <sub>2</sub>	60~70
	Fe <sub>2</sub> O <sub>3</sub>	≤2.0
Bulk Density (kg/m <sup>3</sup> )		≥2200
Cold Crushing Strength (MPa)		≥40
0.2MPa Refractoriness Under Load (°C)		1200
Thermal Conductivity (W/m · K)	1000°C	1.28
Thermal Expansion (%)	1000°C	0.7
Apparent Porosity (%)		≤20
Thermal Shock Resistance, 1100°C, Water Cooling (Times)		≥25



## Refractory configuration for lining of cement kiln

### Monolithic refractories

Application Area		PRCO Brand Name	PRCO Products
Preheater		PN-BP14	High strength alkali resistant castable
Pre-calcining Zone		PN-BSC16	High strength wear resistant crack-proof castable
		PN-BP15	Low cement crack-proof castable
Fume chamber, cone section of pre-calcining Zone, cone section of four or five stage preheater, feeding tube		PN-SC13	SiC-based anti-coating castable
Door Cover		PN-BSC16	High strength wear resistant explosion-proof castable
		PN-BP15	Explosion-proof low cement castable
Tertiary Air Duct	Elbow, Windshield Valve	PN-BM16	Abrasion resistance low cement castable
	straight tube	PN-BSC16	High strength wear resistant explosion-proof castable
Grate Cooler	Throat, Low wall, Side wall, Roof	PN-BM16	Abrasion resistant low cement castable
		PN-BSC16	High strength wear resistant explosion-proof castable
	Middle Zone	PN-BP15	Explosion-proof low cement castable
	Cooling Zone	PN-BP14	High strength alkali resistant castable
Kiln Inlet		PN-BM16	Abrasion resistant low cement castable
		PN-BSC16	High strength wear resistant explosion-proof castable
		PN-AM17	Corundum mullite castable
Kiln Outlet		PN-AM17	Ultra low cement castable
		PN-TC18	Anti-spalling corundum castable
Pulverized Coal Injection Pipe		PN-MT17	Corundum mullite castable
		PN-TC18	Anti-spalling corundum castable
Waste heat power generation settling chamber		PN-NMK75	High strength abrasion resistant plastic mix

### Shaped refractories

Application Area	PRCO Brand Name	PRCO Products
Preheater, tertiary air duct	PN-RKH	High strength alkali resistant brick
Decomposing furnace	PN-SA1550	Silicon carbide mullite brick
	PN-RSA70	Anti-spalling high alumina brick
Calcining zone	PN-RSA70	Anti-spalling high alumina brick
	PN-SA1550	Silicon carbide mullite brick
	PN-SA1650	Silicon carbide mullite brick
Safety zone	PN-SA1650	Silicon carbide mullite brick
	PN-SA1680	Silicon carbide mullite brick
Upper and lower transition zone	PN-SA1680	Silicon carbide mullite brick
	PN-SA1650	Silicon carbide mullite brick
	PN-MA	Magnesia spinel brick
Burning zone	PN-MAF	Magnesia hercynite spinel brick
	PN-DMC	Direct-bonded magnesia-chrome brick

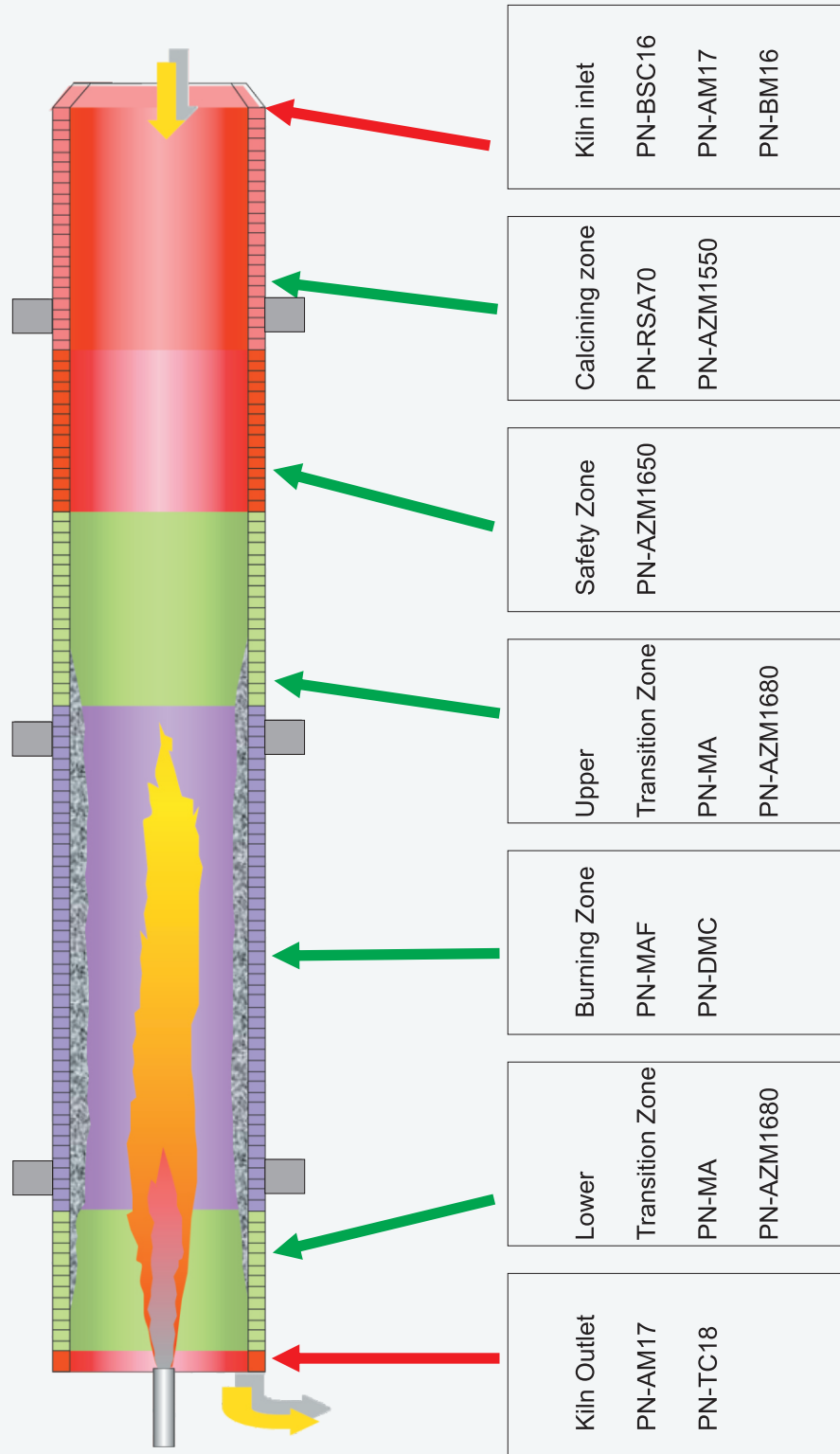
### Refractories design concept

1. Prolong operation period, avoid frequent kiln stoppage due to refractories;
2. Eliminate the bottleneck of kiln operation, make maintenance more planned, reduce unscheduled kiln stoppage;
3. Have very good protection effect on the kiln body and other steel parts;
4. Eliminate casting lining drops off caused by anchor problem;
5. Eliminate severe crusting phenomenon in kiln ring and fume chamber at kiln inlet, preheater.

The reasonable selection of construction scheme and optimization of refractory materials can ensure construction quality, extend service life of the lining and improve the operation rate of cement kiln.



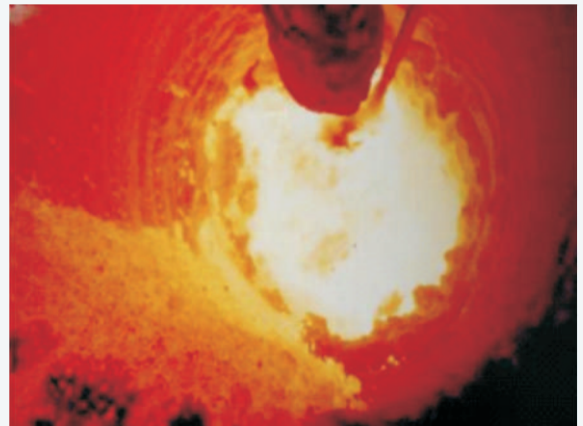
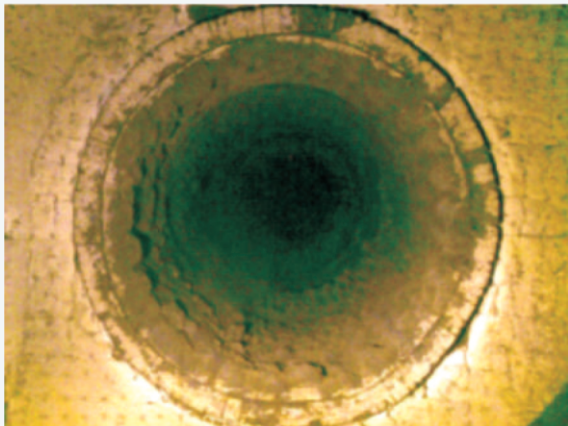
Refractory Configuration of Cement Kiln



Area of Cement Kiln



Preheater



Kiln inlet and outlet



Coal injection tube





Tertiary air duct



Grate cooler



Rotary kiln



## PUYANG REFRACTORIES GROUP CO.,LTD.

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