



ABS REFRATORIES
PVT. LTD.

PRODUCTS FOR CEMENT INDUSTRY

Advanced Refractory Solutions
for Maximum Kiln Performance
and Longer Campaign Life





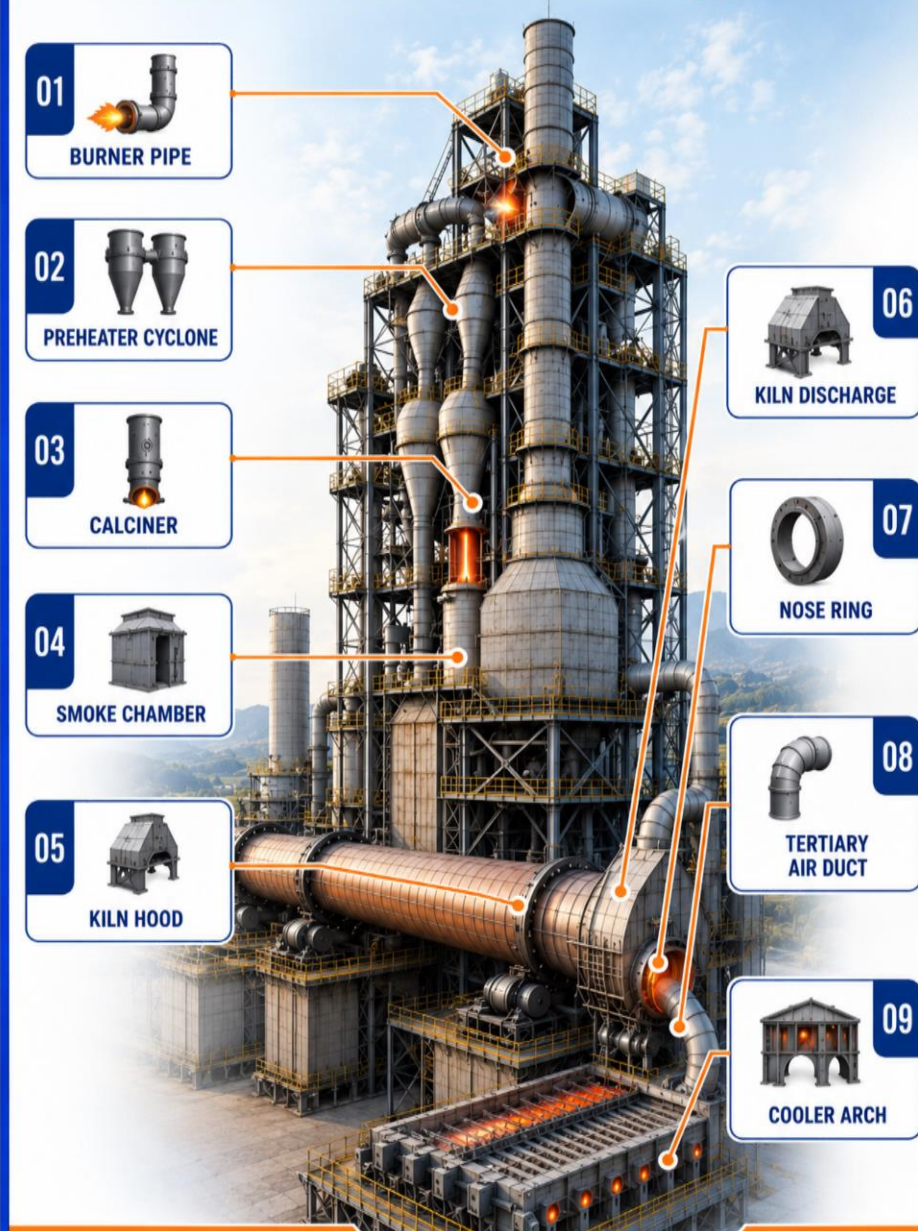
CEMENT ROTARY KILN LAYOUT





“Refractory Solution for Every Critical Zone”

APPLICATION AREAS CEMENT INDUSTRY





OPERATION AREA & PRODUCTS FOR CEMENT INDUSTRY

- Cement making process has special requirement regarding the correct choice of refractory materials.
- The design of the plant, the raw material used in the process, and the various fuel option , all have major influence on the Refractory required.
- Input raw material, Alkali penetration, build-up, Abrasion and the use of alternative fuel, must all be carefully studied to arrive at a workable solution.





BURNER PIPE

An Important area For Abrasion And Wear

🔥 The burner pipe is a critical area with specific refractory requirements depending on:

- » Kiln and grate cooler design
- » Raw materials used
- » Fuel type
- » Alternative fuel firing conditions

Critical Operating Conditions



**High Thermal
load**



**Severe
abrasion**



Infiltration



**Chemical
attack**

These factors must be carefully considered when selecting the appropriate monolithic refractory for lining the burner pipe.



Recommended Product
M CAST LC SiC 30/25



Critical Zone – High Temperature & Chemical Corrosion



- » The Calciner plays an important role in the cement manufacturing process being the first step of the clinker production process.
- » The main property of the calciner's refractory lining is to withstand the chemical attacks coming from the hot gases of the process.
- » Refractory materials must have low porosity and good thermal stability.

WHY THESE CASTABLES?



Excellent
Chemical
Resistance



High Thermal
Stability



Low Porosity



Resistant to Hot
Gas Erosion



Long Campaign
Life



Recommended Product
M CAST LC 45/50 , M Gun LC 45
M Gun LC 25 SiC



RISER DUCT



Critical Zone – Build-up Formation & Alkali Penetration

The riser duct is a problematic zone due to: -
build-ups, alkali penetration, chemical attack
to the steel anchors.

KEY CHALLENGES



Build-up
Formation



Alkali
Penetration



Chemical Attack
on Steel Anchors



High
Temperature



Dust
Abrasion



Recommended Product

M CAST LC 45/50 , M GUN LC 45/50 ,
M GUN LC 30Sic



SMOKE CHAMBER



Critical Area For Build-Up & Thermal Shock



 The smoke chamber is a critical area, where **build-ups**, frequent use of **high pressure water pump** which causes **thermal shock** make it necessary to use special Refractories

KEY CHALLENGES



Build-up
Formation



Thermal
Shock



High Pressure
Water Cleaning



Chemical
Attack



Recommended Product
M CAST SiC 30
M Gun LC SiC 25/30



NOSE RING/ KILN DISCHARGE

Critical Zone for High Abrasion & Thermal Shock

⦿ The nose ring is also a critical area, requiring special monolithic refractory material which has an excellent resistance to:

- » High Thermal Shock
- » Mechanical Resistance to Abrasion
- » Resistance to Chemical Attack .



Recommended Product
M CAST LC 80/90, M CAST SiC 30
M CAST LC 60RD



TERTIARY AIR DUCT



Optimal Refractory Solution For High Abrasion Zones

- » For the tertiary air duct it is better to use suggest abrasion resistant castables for the most stressed areas.
- » For the other areas we suggest to use fireclay bricks.

KEY BENEFITS OF USING CASTABLES IN HIGH WEAR ZONES



Excellent
Abrasion
Resistance



Withstands
High
Temperatures



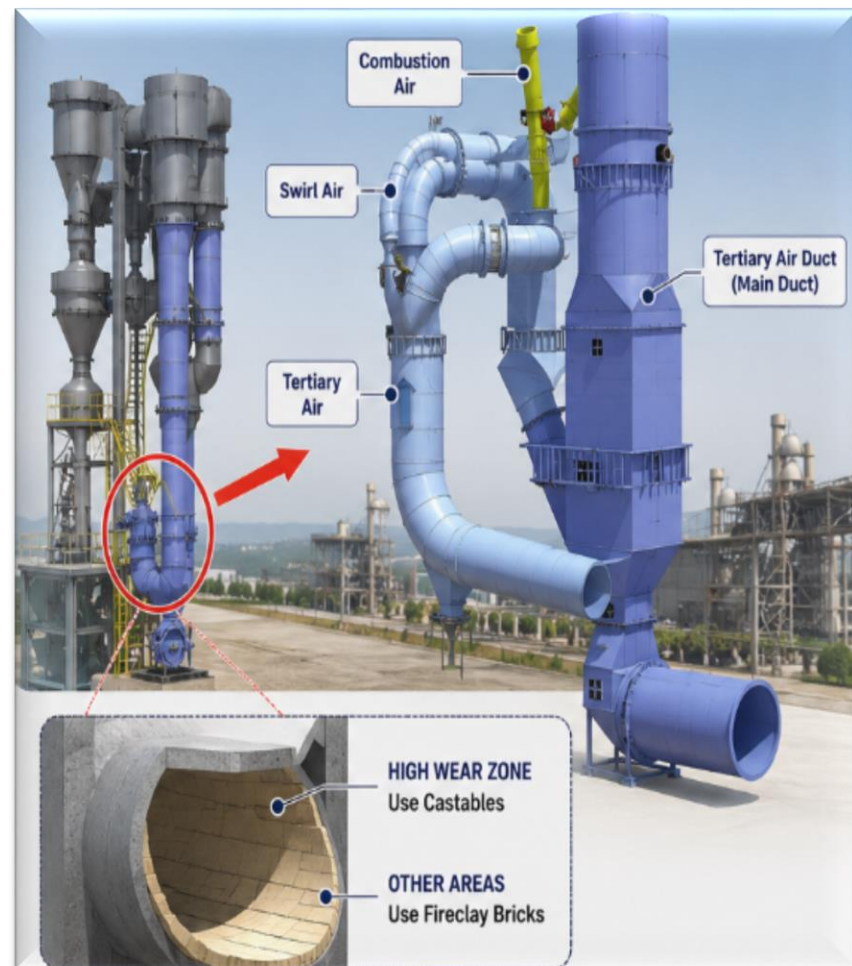
High Strength
& Long
Service Life



Resistant to
Chemical
Attack



Recommended Product
M CAST LC 80ABR
M CAST SiC 15





GRATE COOLER WALLS



Build to withstand severe Thermal Shock & Abrasion



- » The formed clinker falls from the kiln into the grate cooler.
- » The cooler area is also a problematic zone due to high thermal shock and abrasion.
- » High quality raw materials and special binders in our monolithics, which are engineered for superior performance
- » Capable of Resisting the severe abrasive conditions in the grate cooler.



Recommended Product

M CAST LC 60/60A

M CAST LC 80A-Hot Area



KILN HOOD

Critical Zone for Heat Retention & Abrasion Resistance

Application Overview

The **Kiln Hood** is located at the discharge end of the rotary kiln and is continuously exposed to high temperatures, hot clinker radiation, dust, and chemical attack. Proper refractory lining ensures efficient heat retention, protects the steel shell, and improves kiln reliability.

Critical Operating Conditions



HIGH
TEMPERATURE



RADIANT
HEAT



ABRASION



CHEMICAL
ATTACK

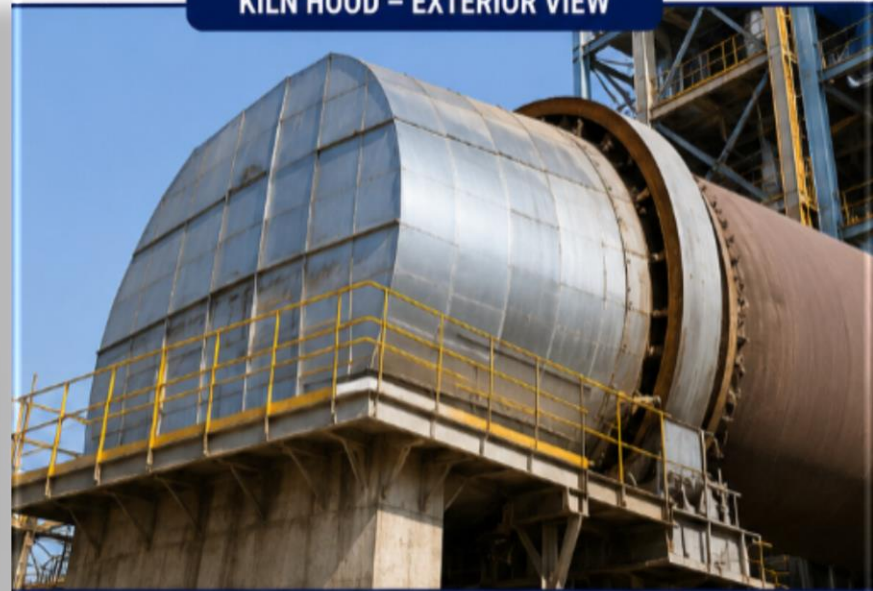
Refractory Requirements

- » Low Thermal Conductivity
- » Excellent Abrasion Resistance
- » High Thermal Shock Resistance
- » Good Chemical Resistance



Recommended Product
M CAST LC 60/60ABR , M CAST LC
70 , M Gun LC 60/70

KILN HOOD – EXTERIOR VIEW



KILN HOOD – INTERNAL LINING VIEW





COOLER ARCH



Severe Alkali Attack & Abrasion Zone

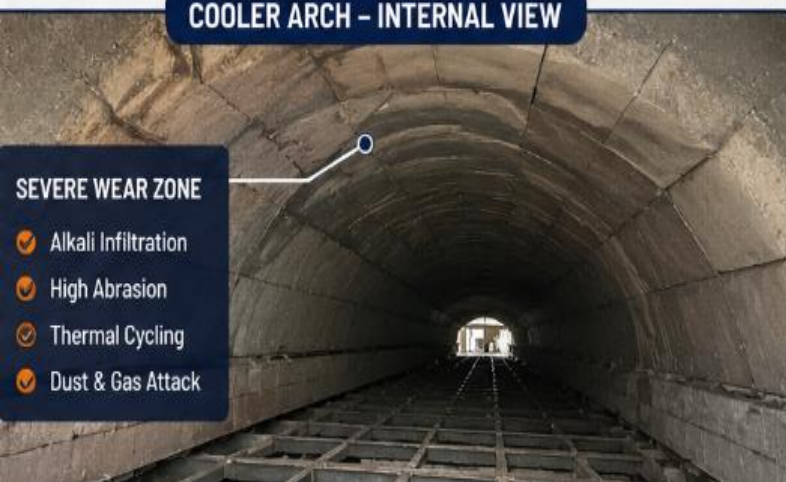
COOLER ARCH – APPLICATION AREA



COOLER ARCH LOCATION

Exposed to alkali vapors, dust, and hot gases during firing and clinker discharge.

COOLER ARCH – INTERNAL VIEW



SEVERE WEAR ZONE

- ✓ Alkali Infiltration
- ✓ High Abrasion
- ✓ Thermal Cycling
- ✓ Dust & Gas Attack



Application Overview

The Area is subjected to **alkali attacked** and **gas and dust** abrasion in profuse manner due to firing process and during clinker discharge.

- The refractory is subjected to **alkali infiltration**
- **Hot abrasive atmosphere**

CRITICAL OPERATING CONDITIONS



ALKALI
ATTACK



GAS & DUST
ABRASION



HOT ABRASIVE
ATMOSPHERE



FIRING PROCESS &
CLINKER DISCHARGE

Refractory Requirements

- » Excellent resistance to alkali attack
- » High Abrasion Resistance
- » Withstand hot abrasive atmosphere
- » Good thermal shock resistance



Recommended Product

M CAST LC SiC 25

M CAST LC 80ABR



THANK YOU

**Complete Refractory Solutions
for Cement Industry**



CONNECT WITH US



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