



RefractorieX

Cement INDUSTRY REFRACTORY SOLUTION



www.RefractorieX.com

Emphasizing customer focus and technical expertise

Our dedicated cement department at RefractorieX is committed to understanding the unique needs of our customers. By closely listening to their feedback, we design and manufacture the optimal refractory solutions for each industry. Our experienced engineering teams, installation experts, and quality assurance specialists work together to extend the lifespan of insulation and refractory layers, ultimately boosting our customers' productivity in today's competitive market.

- Our innovative products for the cement industry encompass monolithic refractories, anchors, and bricks, covering all stages of the production process from preheating to grate coolers. Refractorix, with its long-standing experience in designing and supplying refractory masses, offers efficient solutions for the cement industry.
- In this Refractory Solution, we strive to offer our customers refractory materials that have been extensively studied and tested in our R&D department and have proven to deliver the best performance and longest lifespan in the industry. Our goal is to reduce costs per ton of clinker produced, minimize downtime due to refractory repairs, and increase production efficiency.

Refractorix produces and supplies a wide range of materials, including:

- A broad spectrum of alumina-silicate refractory bricks and shapes.
- Various types of anchors.
- Insulation boards, blankets, and bricks.
- Monolithic materials such as:
 - Low-cement gunning and castables
 - Self-flowing castables
 - Insulating gunning and castables
 - Anti-abrasive gunning and castables containing SiC
 - Plastic ramming mixes



Installation and Execution

Refractorix's technical and engineering services department, equipped with a skilled workforce and state-of-the-art equipment, operates through various execution teams across diverse industries. This enables us to provide comprehensive technical and engineering services, as well as installation of various refractory materials.

● Our technical and engineering services encompass the following:

○ Design and Engineering Services

1. Refractory Design: Drafting and providing technical proposals for various equipment and furnaces in the steel, cement, petrochemical, and other industries.
2. Design of various refractory components in different shapes.
3. Design and manufacturing of various molds for refractory production.

○ Installation and Dry Out Services

1. Installation and execution of various refractory materials in different industries, including steel, cement, petrochemical, and more.
2. Conducting dry-out operations for various equipment and refractories according to schematic diagrams, standards, regulations, and guidelines.

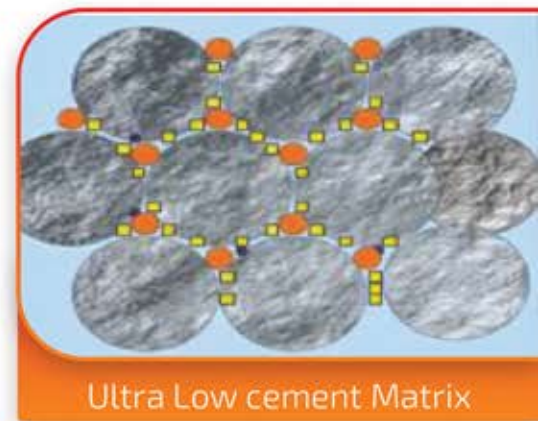
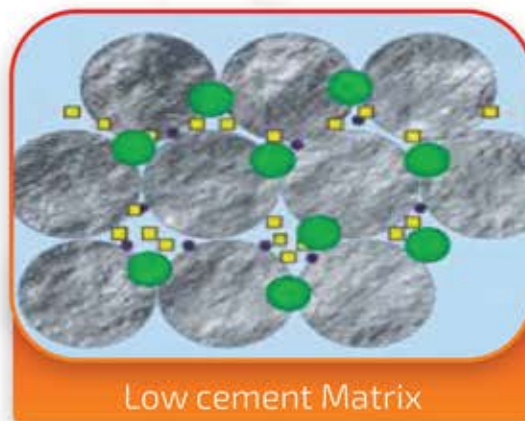
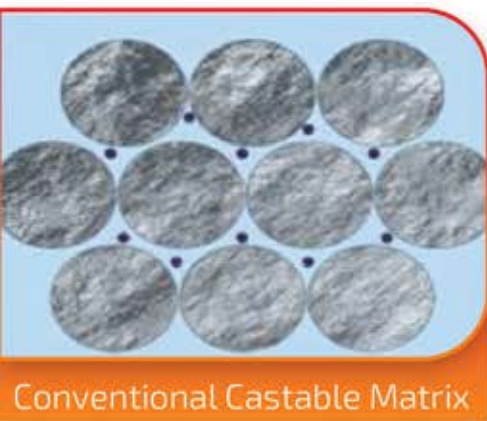
○ Consulting and Supervision Services

1. Providing consulting and supervisory services for various design and execution projects.
2. Project management and leadership of project-oriented team

○ Tensions In The Cement Industry

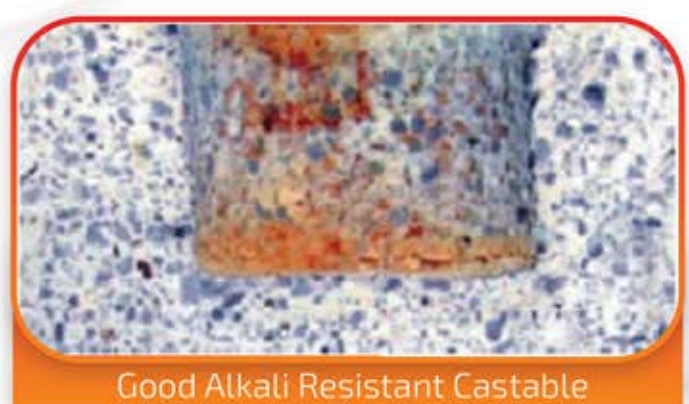
Abrasion:

Low-cement castables, thanks to their fundamentally dense structure compared to conventional castables, offer exceptional mechanical strength, abrasion resistance, and thermal shock resistance.



Alkali Corrosion:

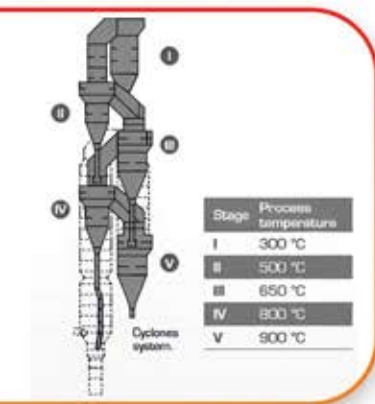
Alkali oxides such as K_2O and Na_2O , in the form of volatile sulfates and chlorides, when penetrating refractory materials, react with the matrix and aggregates, forming new phases with alumina and silica. These new phases exhibit significant expansion, low melting points, and cause severe swelling and coating destruction. Refractorix offers a comprehensive range of products to withstand the toughest



CYCLONE 1,2,3,4		PRODUCTION
INSU/ HEAVY WEIGHT CASTABLE		REXCRETE TR 45
		REXCRETE TR 50
		REXCRETE TR 50H
		REXCRETE TR 60-SC
		INSUREX 95P
INSU/ HEAVY WEIGHT GUNNING		REXCRETE TRG 50
		REXCRETE ESG 50-B
		REXCRETE ESG 60-B
		INSUREX G 100/C
ANCHORS		STANLES STEEL 304/310-INCONEL 601 TYPE ACCORDING TO DESIGN

Cyclone

The preheater's primary function is to heat and prepare the raw materials before they enter the kiln. Raw materials are elevated from the silos to the top of the preheater using airlifts, where their temperature is raised from 50°C to 860°C. The preheated raw materials then enter the kiln system, passing through the preheater and calciner before entering the rotary kiln.



CYCLONE 5, CALCINER, RISER DUCT		PRODUCTION
INSU/ HEAVY WEIGHT CASTABLE		REXCRETE TR 60H
		REXCRETE TR 70-B
		REXSIT ES 1050-B
		REXSIT TR 1060-B
		REXSIT ES 1060-AB
		REXSIT ES 1070-AB
INSU/ HEAVY WEIGHT GUNNING		INSUREX 95P
		REXCRETE ESG 60-B
		REXCRETE ESG 70-AB
		REXSIT ESG 1045
		REXSIT TRG 858-A
		REXSIT ESG 1060-AB
ANCHORS		REXSIT ESG1070-B
		INSUREX G 100/C
		STANLES STEEL 304/310-INCONEL 601 TYPE ACCORDING TO DESIGN

Calciner, Riser Duct

The calciner is the first stage in the clinker production process. Due to the high process temperature and the circulation of chlorides and alkalis, the refractory materials are subjected to severe thermal and chemical attacks. The refractory materials in this section must have low porosity and good thermal stability.





INLET

The inlet is the point where materials enter the kiln from the riser. The temperature in this area reaches 1100°C. Due to high abrasion, alkali attacks, and severe coating formation, silicon carbide-containing castables are used as refractory materials in this area.

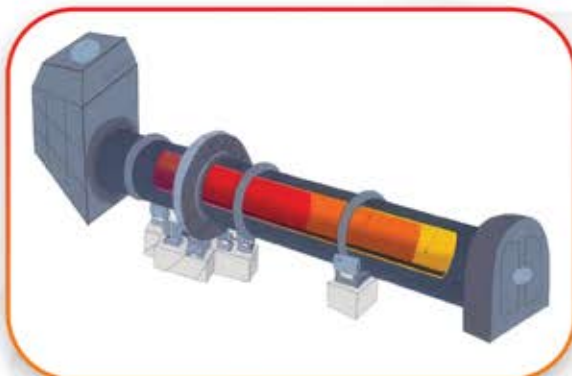
INLET	PRODUCTION
INSU/ HEAVY WEIGHT CASTABLE	REXCRETE ES 80M -B
	REXSIT ES 560-B
	REXSIT TR 1060-B
	REXSIT ES 1070-AB
	INSUREX 95P
INSU/ HEAVY WEIGHT GUNNING	REXSIT ESG 1055-B
	REXSIT ESG 1060-AB
	REXSIT ESG 570-AB
	REXSIT ESG1070-B
	INSUREX G 100/C
ANCHORS	STANLES STEEL 304/310-INCONEL 601 TYPE ACCORDING TO DESIGN



ZONES

The inlet zone, where materials enter the kiln, and the outlet zone, where clinker exits, are both subject to significant abrasive wear. The outlet zone experiences more severe wear due to the higher temperature and the abrasive nature of the clinker. Refractory materials in these areas must possess enhanced abrasion resistance and refractoriness to withstand these demanding conditions.

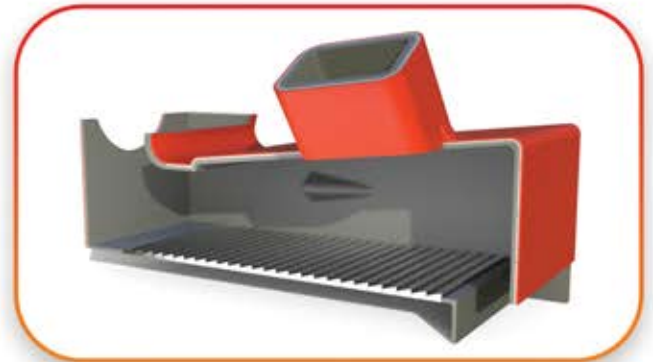
ROTARY KILNS	PRODUCTION
INLET ZONE	
INSU/ HEAVY WEIGHT CASTABLE	REXSIT ES 1250-TAZ
	REXSIT ES 1672-TA
	REXSIT ES 1070-AB
OUTLET ZONE	
INSU/ HEAVY WEIGHT CASTABLE	REXSIT ES 580-BT
	REXSIT ES 1080-TZ
	REXSIT ES 590-T
	REXCRETE ES 90M-T
ANCHORS	STANLES STEEL 304/310-INCONEL 601 TYPE ACCORDING TO DESIGN



KILN HOOD	PRODUCTION	
BRICKS	REXCRETE ES 80M -B REXCRETE TR 80-B	
INSU/ HEAVY WEIGHT CASTABLE	REXSIT ES 1070-AB REXSIT ES 1672-TA REXSIT ES 1080-B	
	INSUREX 95P	
	REXSIT TRG 1052-A REXSIT TRG 858-A	
INSU/ HEAVY WEIGHT GUNNING	REXSIT TRG 2058-TAZ REXSIT ESG 1560-B REXSIT ESG1080-TB INSUREX G 100/C	
	ANCHORS	STANLES STEEL 304/310-INCONEL 601 TYPE ACCORDING TO DESIGN

KILN HOOD

The selection of suitable refractory materials in this area is crucial due to high temperatures, abrasion by clinker dust, alkali attacks, and thermal shock. For this zone, we recommend refractories with low thermal conductivity, good abrasion resistance, and excellent resistance to chemical attack.



GRATE COOLER	PRODUCTION		
INSU/ HEAVY WEIGHT CASTABLE	REXSIT TR 560-B REXSIT TR 1060-B REXSIT ES 560-B REXSIT ES 1060-AB INSUREX 95P		
	INSU/ HEAVY WEIGHT GUNNING	REXSIT ESG 1045 REXSIT ESG 550-B REXSIT ESG 1050-B INSUREX G 100/C	
		ANCHORS	STANLES STEEL 304/310-INCONEL 601 TYPE ACCORDING TO DESIGN

GRATE COOLER

Clinker exiting the kiln enters the cooler. The selection of suitable refractory materials for this area is crucial due to high temperatures, abrasion, and thermal shock. For this zone, we recommend refractories with excellent shock resistance and abrasion resistance.



BURNER

The primary factors for the burner refractory are shock resistance and the ability to withstand temperatures up to 1450°C. The burner tip experiences more severe conditions compared to the rest of the burner. Therefore, we recommend refractories with higher alumina content and containing SiC/ZrO₂.

BURNER	PRODUCTION
BURNER BODY	
CASTABLE	REXSIT ES 1250-TAZ
	REXSIT ES 580-BT
	REXSIT ES 1085-T
	REXSIT ES 590-T
	REXCRETE ES 90M-T
BURNER TIP	
CASTABLE	REXSIT ES 2460-TAZ
	REXSIT ES 3535-TAZ
ANCHORS	STANLES STEEL 304/310-INCONEL 601 TYPE ACCORDING TO DESIGN



TERITIARY AIR DUCT

	PRODUCTION
TERITIARY AIR DUCT	
INSU/ HEAVY WEIGHT CASTABLE	REXCRETE ES 70 -AB
	REXCRETE ES 80M -B
	REXSIT ES 1060-AB
	REXSIT ES 1070-AB
	INSUREX 95P
INSU/ HEAVY WEIGHT GUNNING	REXSIT ESG 1055-B
	REXSIT TRG 858-A
	REXSIT ESG 1060-AB
	REXSIT ESG1070-B
	INSUREX G 100/C
DAMPER	
INSU/ HEAVY WEIGHT CASTABLE	REXSIT ES 1070-AB
	REXSIT ES 580-BT
	REXSIT ES 1080-T
	INSUREX 95P
INSU/ HEAVY WEIGHT GUNNING	REXSIT ESG1070-B
	REXSIT ESG 570-AB
	REXSIT ESG1080-TB
	INSUREX G 100/C
ANCHORS	STANLES STEEL 304/310-INCONEL 601 TYPE ACCORDING TO DESIGN



Data Sheet

PRODUCT NAME REFRACTORIEX	CLASSIFICATI ON TEMP °C	CHEMICAL ANALYSIS(%)					BULK DENSITY (gr/cm ³)	Cold Crushing Strength (N/mm ²)			Permanent Liner Change (%)	Main Raw Material Base
		Al ₂ O ₃	SiO ₂	Fe ₂ O ₃	SiC	ZrO ₂		110°C	1100°C	1400°C		
CONVENTIONAL CASTABLE												
INSUREX 95P	1100	29	44	7			1	3	2			Perlite/Expanded Clay
REXCRETE TR 45	1300	40	35	7			2.1	30	25			Fireclay
REXCRETE TR 50	1400	45	40	3			2.3	40	30			Fireclay
REXCRETE TR 50H	1500	50	38	3			2.4	60	55		-0.4	Fireclay/Bauxite
REXCRETE TR 60H	1500	60	30	2.5			2.4	70	60		-0.3	Fireclay/Bauxite
REXCRETE TR 60SC	1450	55	31	3			2.4	60	45			Fireclay
REXCRETE TR 70-B	1550	65	25	2			2.5	70	65		-0.3	Bauxite/Fireclay
REXCRETE TR 80-B	1650	73	18	2			2.6	70	60		-0.3	Bauxite
LOW CEMENT CASTABLE												
REXCRETE ES 70 -AB	1600	65	26	1.8			2.5	70	80		-0.3	Andalusite/Bauxite
REXCRETE ES 80M -B	1650	75	14	2.5			2.6	70	80		-0.3	Bauxite
REXCRETE ES 90M-T	1700	90	6	0.5			3	80	90		-0.2	Tabular
CASTABLE WITH SiC												
REXSIT TR 560-B	1550	58	27	2.5	5		2.5	70	70		-0.2	Bauxite/SiC
REXSIT TR 1060-B	1550	58	23	2.5	10		2.5	70	70		-0.2	Bauxite/SiC
REXSIT ES 1050-B	1500	48	31	3	10		2.4	70	75		-0.3	Fireclay/Bauxite/SiC
REXSIT ES 560-B	1550	58	26	2.5	5		2.5	70	75		-0.3	Bauxite/SiC
REXSIT ES 1060-AB	1550	58	24	1.8	10		2.5	75	80		-0.2	Bauxite/Andalusite/SiC
REXSIT ES 1070-AB	1600	67	15	1.5	10		2.6	80	90		-0.2	Bauxite/Andalusite/SiC
REXSIT ES 1080-B	1650	75	10	2.2	5		2.5	75	85		-0.2	Bauxite/SiC
REXSIT ES 1672-TA	1650	72	8	0.3	16		2.8	80	90		-0.2	Tabular/Andalusite/SiC
REXSIT ES 580-BT	1650	80	8	1.5	5		2.8	80	90		-0.2	Tabular/Bauxite/SiC
REXSIT ES 1080-T	1700	80	6	0.3	10		2.9	80	90		-0.2	Tabular/SiC
REXSIT ES 585-T	1700	85	6	0.3	5		3	80	90		-0.2	Tabular/SiC
REXSIT ES 1085-T	1700	82	5	0.3	10		3	80	90		-0.2	Tabular/SiC
REXSIT ES 1080-TZ	1700	80	6	0.3	10	2.5	2.9	80	90		-0.2	Tabular/SiC
REXSIT ES 590-T	1700	87	5	0.3	5		3.1	80	90		-0.2	Tabular/SiC
REXSIT ES 1250-TAZ	1600	50	23	0.5	12	11	2.7	80	90	100	-0.2	Tabular/Andalusite/SiC
REXSIT ES 2460-TAZ	1650	60	7	0.3	24	5	3	80	90	110	-0.2	Tabular/Andalusite/SiC
REXSIT ES 3535-TAZ	1600	35	20	0.5	35	6	2.7	80	90	100	-0.2	Tabular/Andalusite/SiC

PRODUCT NAME REFRACTORIE X	CLASSIFICATI ON TEMP °C	CHEMICAL ANALYSIS(%)					BULK DENSITY (gr/cm ³)	Cold Crushing Strength (N/mm ²)			Permanent Liner Change (%)	Main Raw Material Base
		Al ₂ O ₃	SiO ₂	Fe ₂ O ₃	SiC	ZrO ₂		110°C	1100°C	1400°C		
CONVENTIONAL GUNNING MIX												
INSUREX G 100/C	1100	29	44	7			1	3	2			Perlite/Expanded Clay
REXCRETE TRG 50	1400	45	38	3			2.2	45	35		-0.5	Fireclay
REXCRETE ESG 50-B	1500	48	39	3			2.2	30	30		-0.5	Fireclay/Bauxite
REXCRETE ESG 60-B	1500	58	30	3			2.3	40	40		-0.5	Fireclay/Bauxite
REXCRETE ESG 70-AB	1550	68	24	1.5			2.3	45	45		-0.5	Andalusite/Bauxite
GUNNING MIX WITH SiC												
REXSIT ESG 1045	1450	45	33	3	10		2.2	30	30		-0.5	Fireclay/SiC
REXSIT ESG 550-B	1500	48	34	3	5		2.2	30	30		-0.5	Fireclay/Bauxite/SiC
REXSIT ESG 1050-B	1500	48	30	3	10		2.3	35	35		-0.5	Fireclay/Bauxite/SiC
REXSIT TRG 1052-A	1550	52	30	1	10		2.3	40	35		-0.5	Andalusite/SiC
REXSIT TRG 858-A	1550	56	28	1.2	8		2.3	40	35		-0.5	Andalusite/SiC
REXSIT ESG 1055-B	1500	53	24	2.5	10		2.3	35	35		-0.5	Fireclay/Bauxite/SiC
REXSIT TRG 1852-B	1550	52	19	2	18		2.5	45	40		-0.5	Bauxite/SiC
REXSIT TRG 2058-TAZ	1600	58	11	0.4	19	6	2.5	50	45		-0.5	Tabular/Andalusite/SiC
REXSIT ESG 1060-AB	1550	58	25	1.5	10		2.4	40	40		-0.5	Bauxite/Andalusite/SiC
REXSIT ESG 1560-B	1600	58	18	2	15		2.4	40	40		-0.5	Bauxite/SiC
REXSIT ESG 570-AB	1600	66	20	1.7	5		2.4	40	40		-0.5	Bauxite/Andalusite/SiC
REXSIT ESG1070-B	1600	68	13	1.8	10		2.5	40	40		-0.5	Bauxite/SiC
REXSIT ESG1080-TB	1650	78	7	0.7	10		2.7	50	50		-0.4	Tabular/Bauxite/SiC

Cement Plant

From the kiln to the cooler, cement plants rely heavily on refractory materials to withstand the harsh conditions of the cementmaking process, including high temperatures, chemical attack, and abrasive wear. RefractorieX manufacturers carefully design and produce these materials to meet the unique requirements of each application, ensuring optimal performance and longevity



 (+971) 505 8765 26

 (+971) 561 3215 15

 www.RefractorieX.com

 export@refractoriex.com

 401 unit, Tower 2, 17 icon
Bay creek harbor, Dubai