



ZICO Refractories Co.

Cement Industry Solutions



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About us



ZICO Refractories Co.

ZICO Refractories Co. was established in 1982 and has a long standing reputation for producing high quality monolithic refractories.

Taking advantage of highly qualified experts, our company has been specialized in developing advanced monolithic refractories including Silica, Alumina, and Magnesia based Ramming Mixes, Alumina based Castable, Mortars and Grouts used in high temperature operations.

We have created value for our customers thanks to our professional and experienced R&D department, quality control, sales engineering, and after sales services. We are also deeply involved in designing, engineering, installation and technical consulting with customers to improve products performance.

ZICO Co. has succeeded to received ISO 9001: 2018 and attempted to implement organization excellence model for production line and quality control of products.



Work Cycle

Maintenance



R&D



Installation



360°



Engineering

Procurement

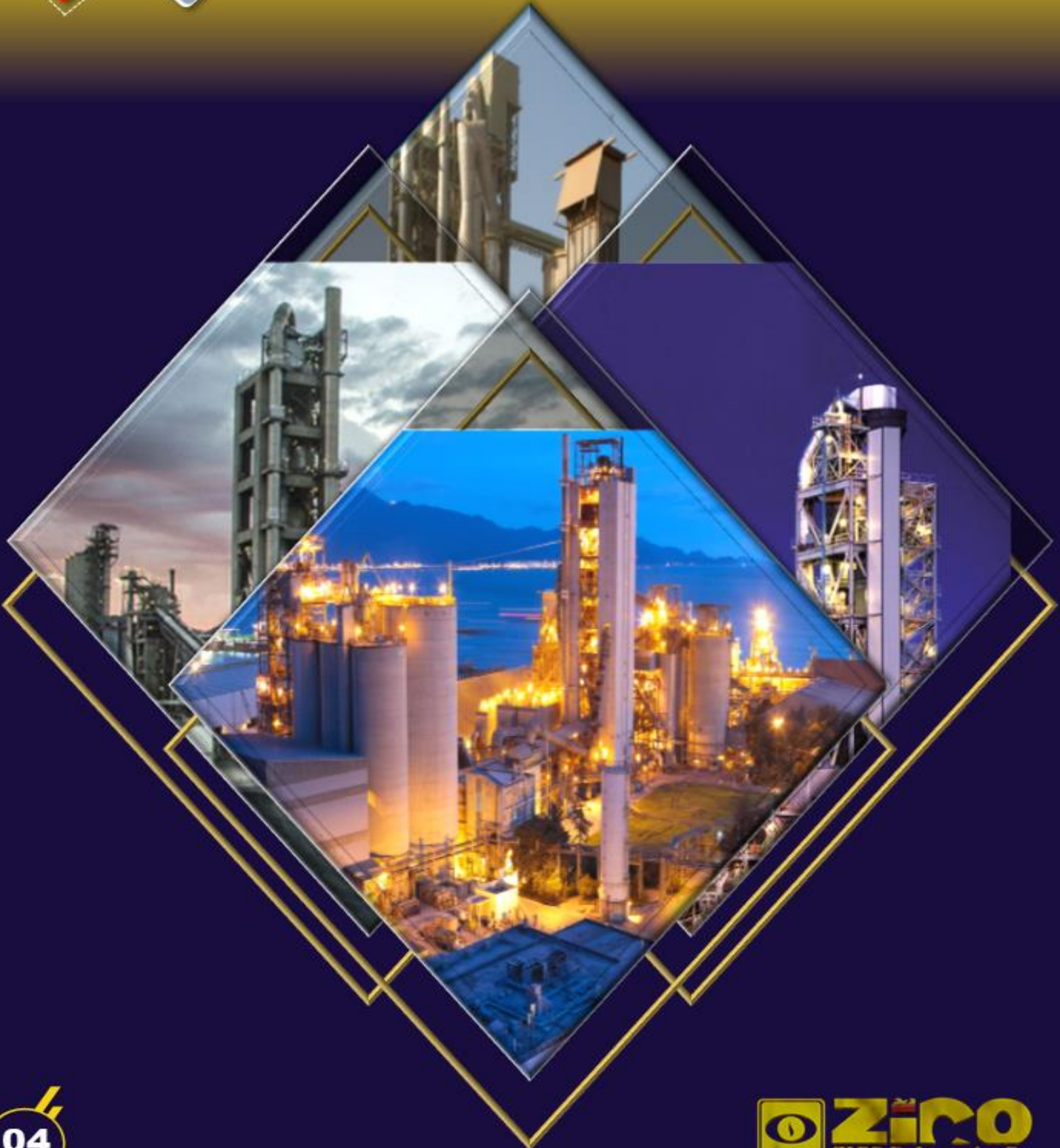


Production





Cement industry





Cement industry



Burner pipe



Calciner



Kiln hood



Inlet chamber



Grate



Tertiary air duct



Nose ring



Meal pipes



Upper cyclone



Lower cyclone



Cement industry

ZICO has been providing refractory solutions for the cement industry for decades and is a reference supplier. Our team of experts selects the best suited products and services for your process requirements.



Upper Cyclones

Lower Cyclones

Inlet Chamber

Calcliner

TAD

Kiln

Cooler



Upper Cyclones



Refractory Lining

Insulating Lining

Framework

We have identified fireclay (chamotte) based refractories to be the most suitable ones for the upper cyclones of the pre-heater tower. We offer a number of different monolithic solutions for this equipment that can be applied through various techniques.





Lower Cyclones



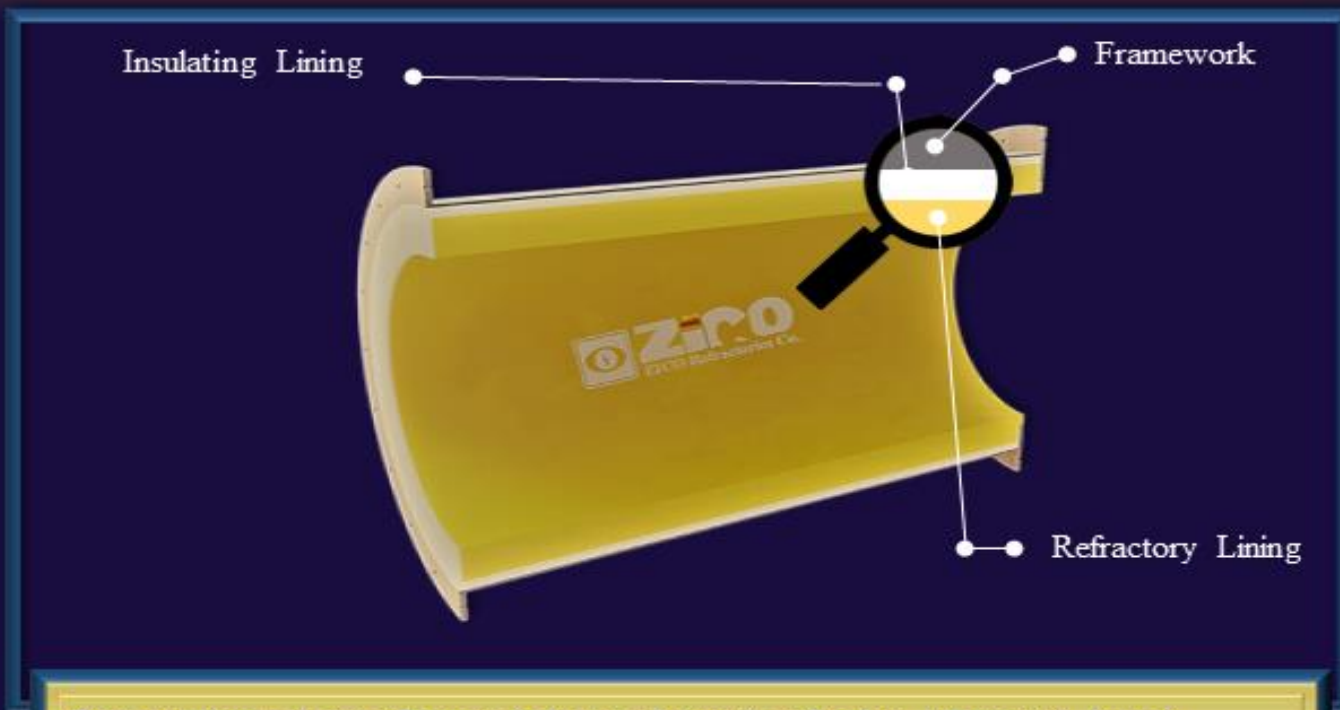
- Refractory Lining
- Insulating Lining
- Framework

At ZICO, we consider fireclay or andalusite based refractories to be the best fit for the lower cyclones of the pre-heater tower, providing a performing and reliable solution..





Meal pipes

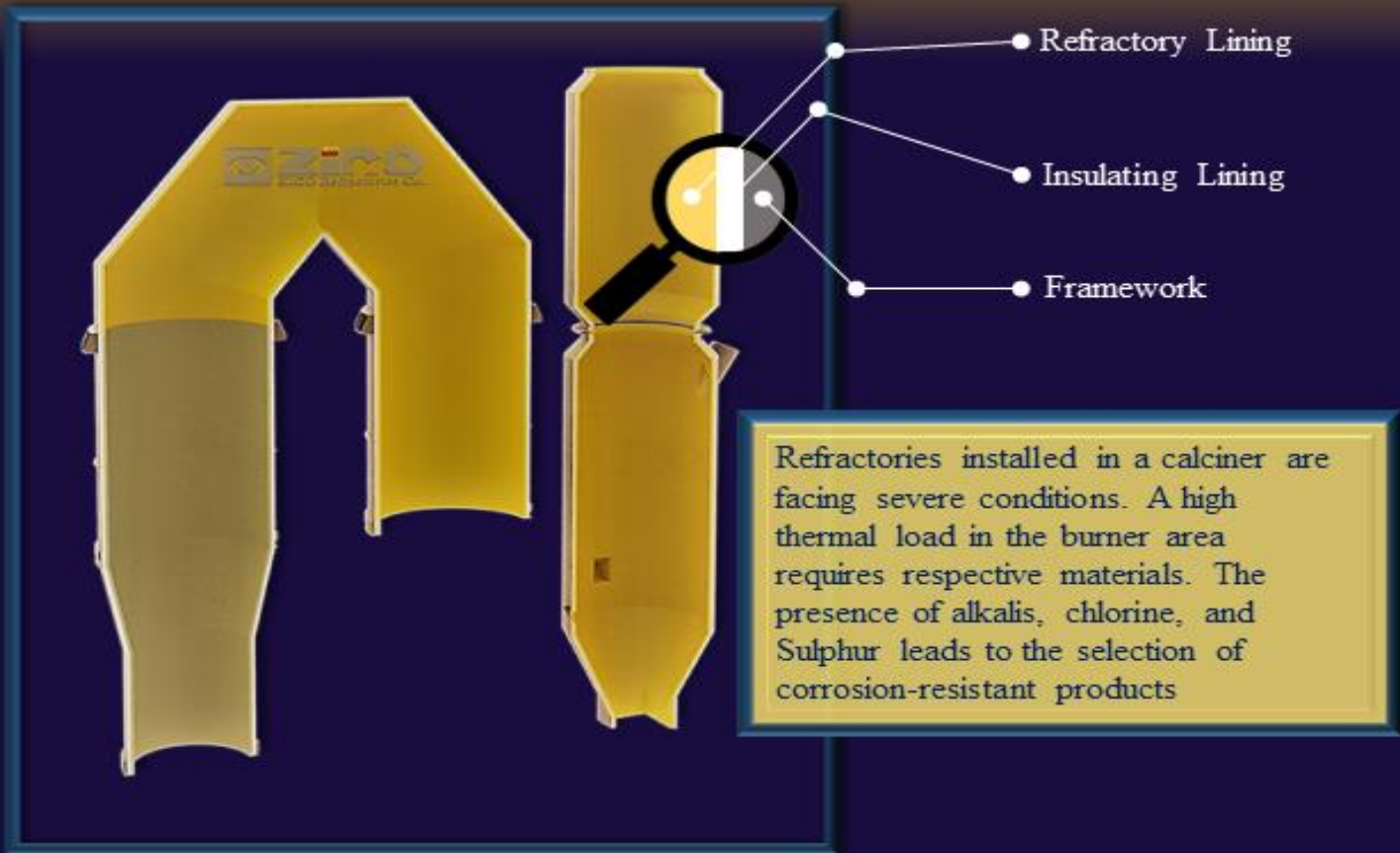


Our experience in the Cement industry shows that fireclay (chamotte) based refractories are the best solution for the upper meal pipes of the pre-heater tower.





Calciner



ZICO CAST 55L-AN-SiC10

ZICO GUN 55L-AN-SiC10

ZICO CAST 50L-AN

ZICO GUN 50L-AN

ZICO CAST 60L-AN

ZICO GUN 60L-AN

ZICO CAST IS1000

ZICO GUN IS1000

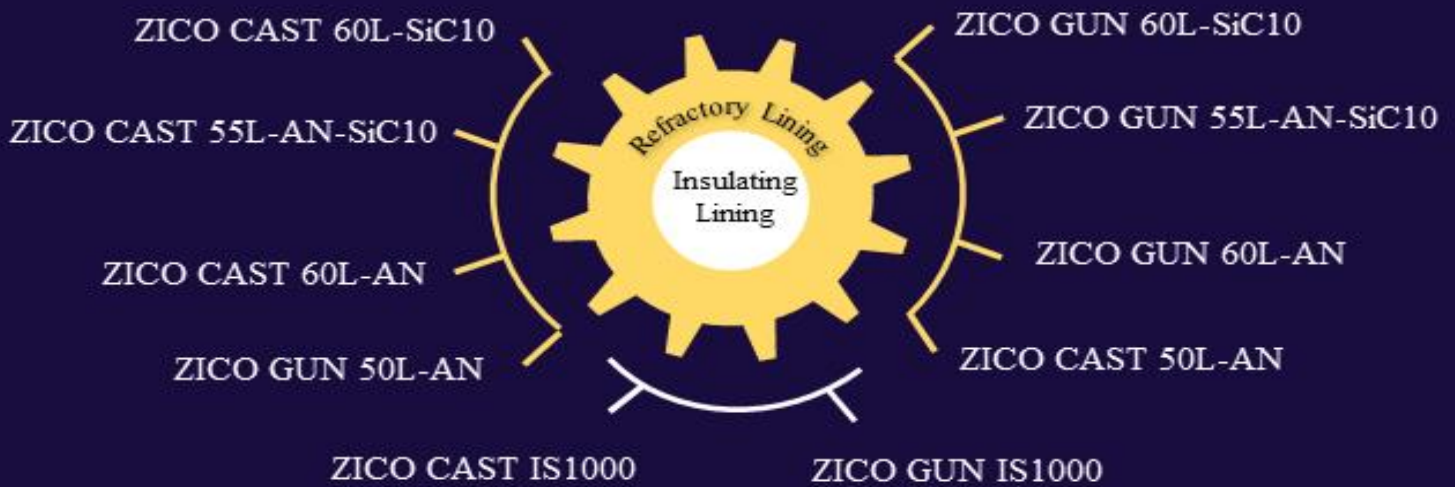


Inlet chamber



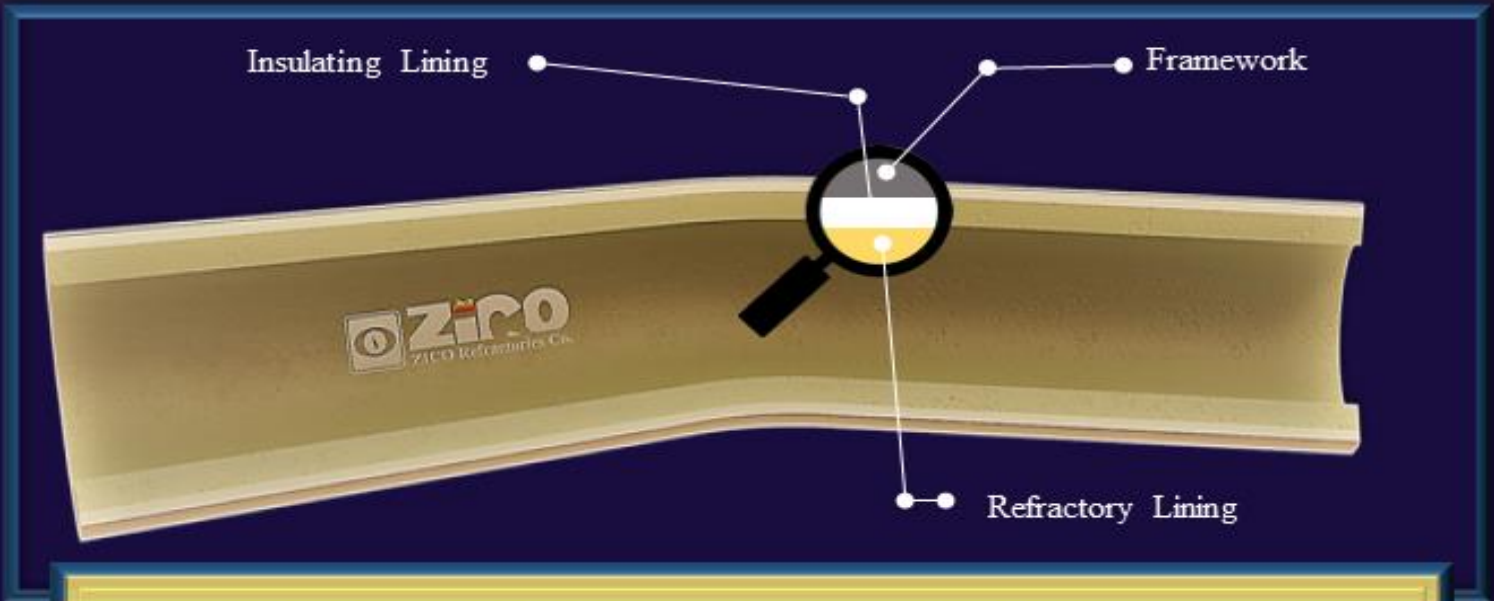
- Refractory Lining
- Insulating Lining
- Framework

Different levels of abrasion, alkali corrosion and/or build-up in the inlet chamber require customized refractory solutions. At ZICO, we provide tailor-made products for each particular set of conditions inside the plant.

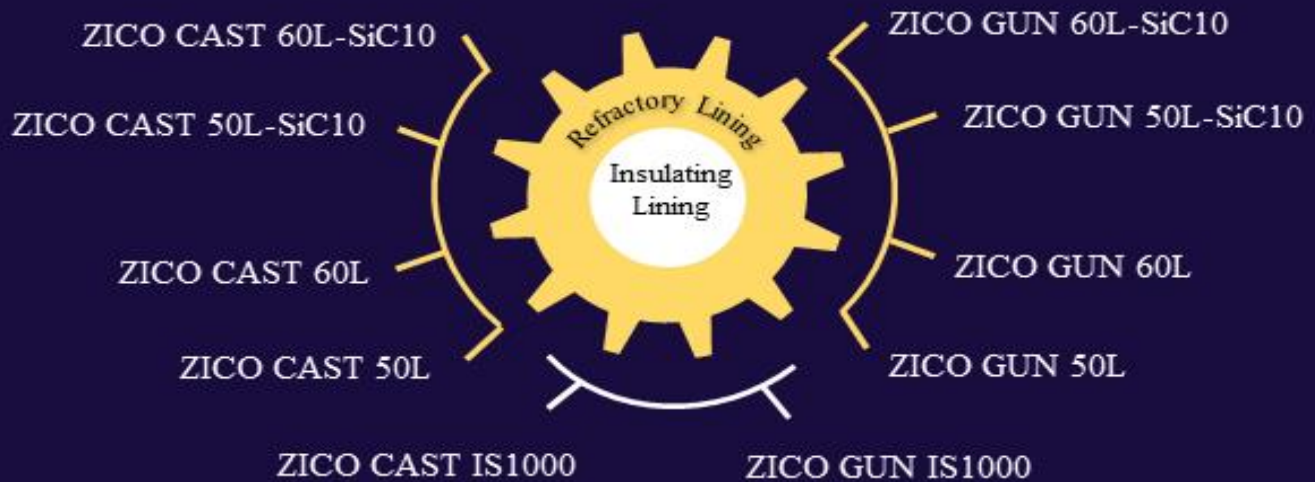




Tertiary Air Duct

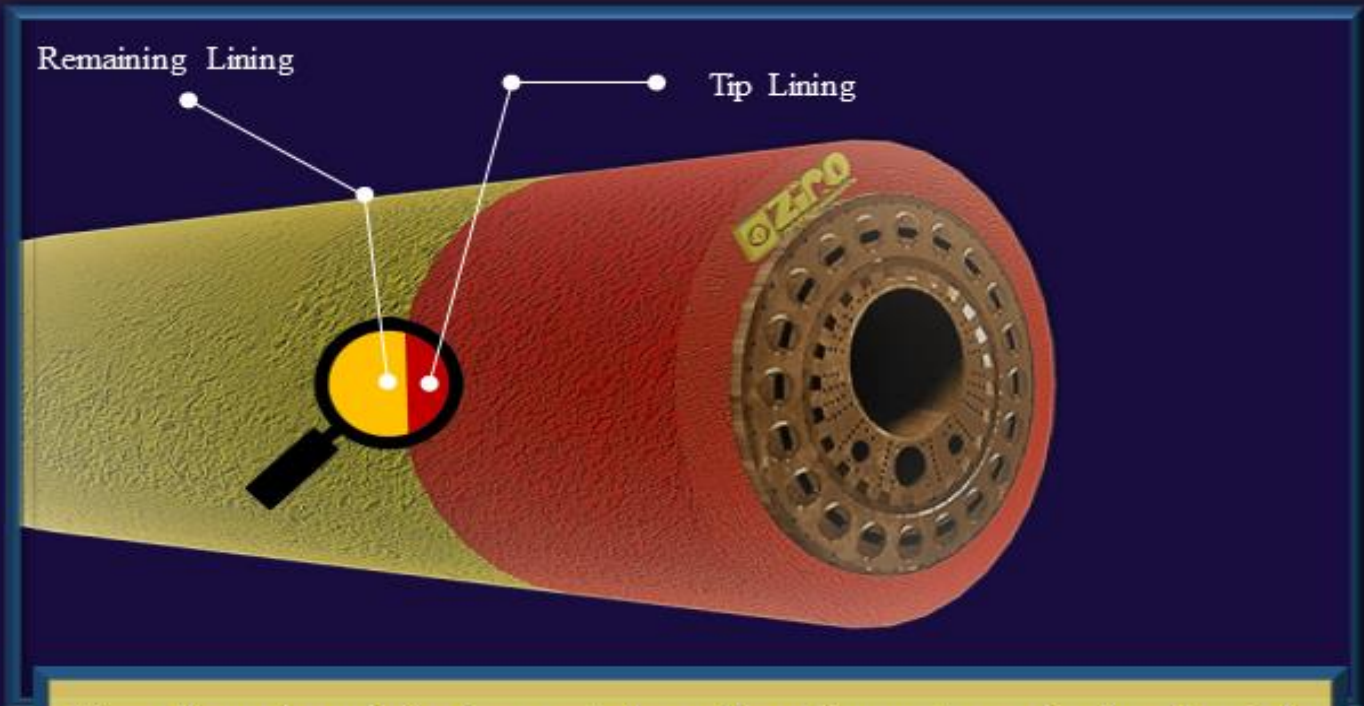


We consider that Bauxite based refractories are the best value solution for the TAD. We propose various monolithic materials for this equipment that we install by various techniques.

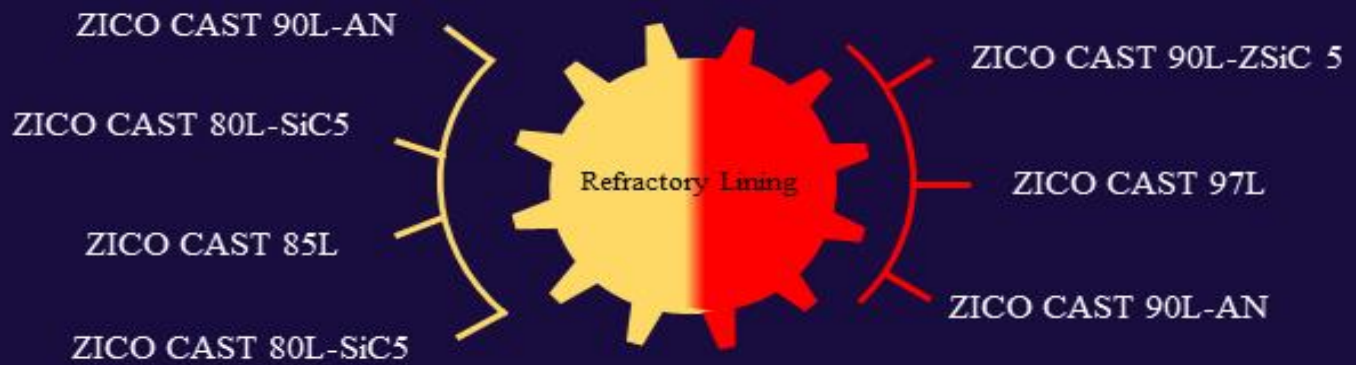




Burner Pipes

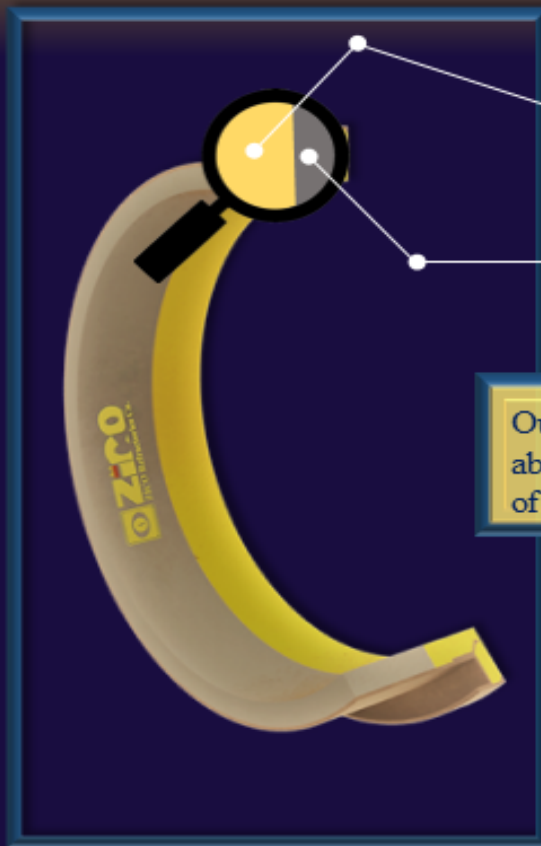


After a thorough analysis of your actual conditions (temperature, abrasion, chemical attacks, movements) we select from a wide range of potential solutions for the burner tip lining. The remaining part of the burner pipe which is not exposed to the extreme conditions is lined with standard materials.





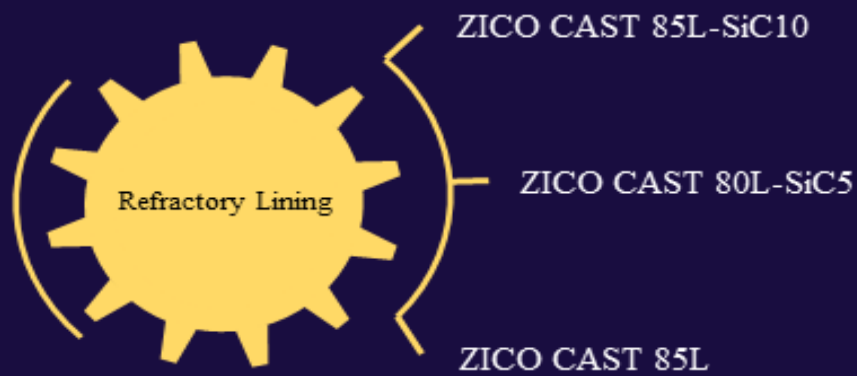
Nose ring



● Refractory Lining

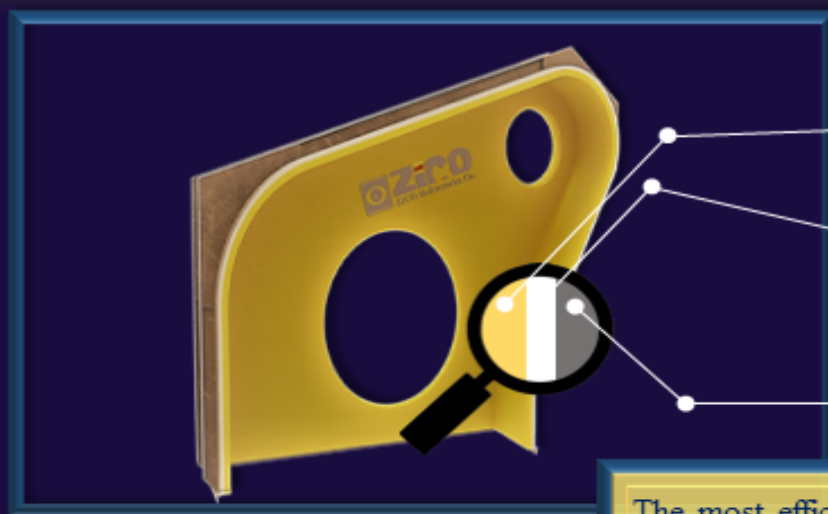
● Framework

Our solution significantly increases the abrasion resistance and performance lifetime of the nose ring lining.





Kiln Hood

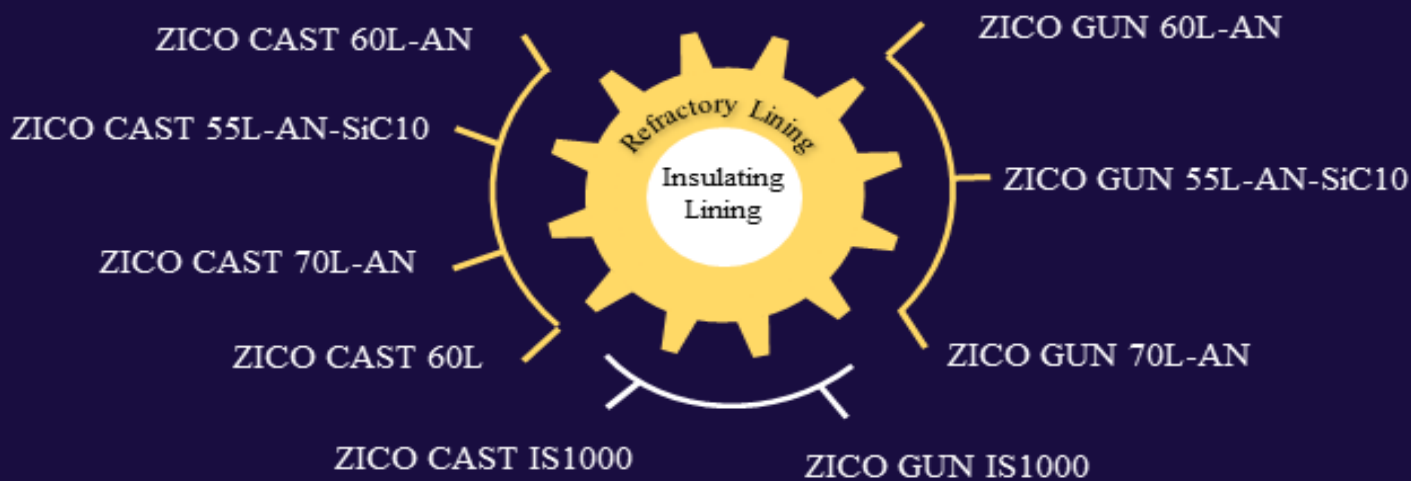


Refractory Lining

Insulating Lining

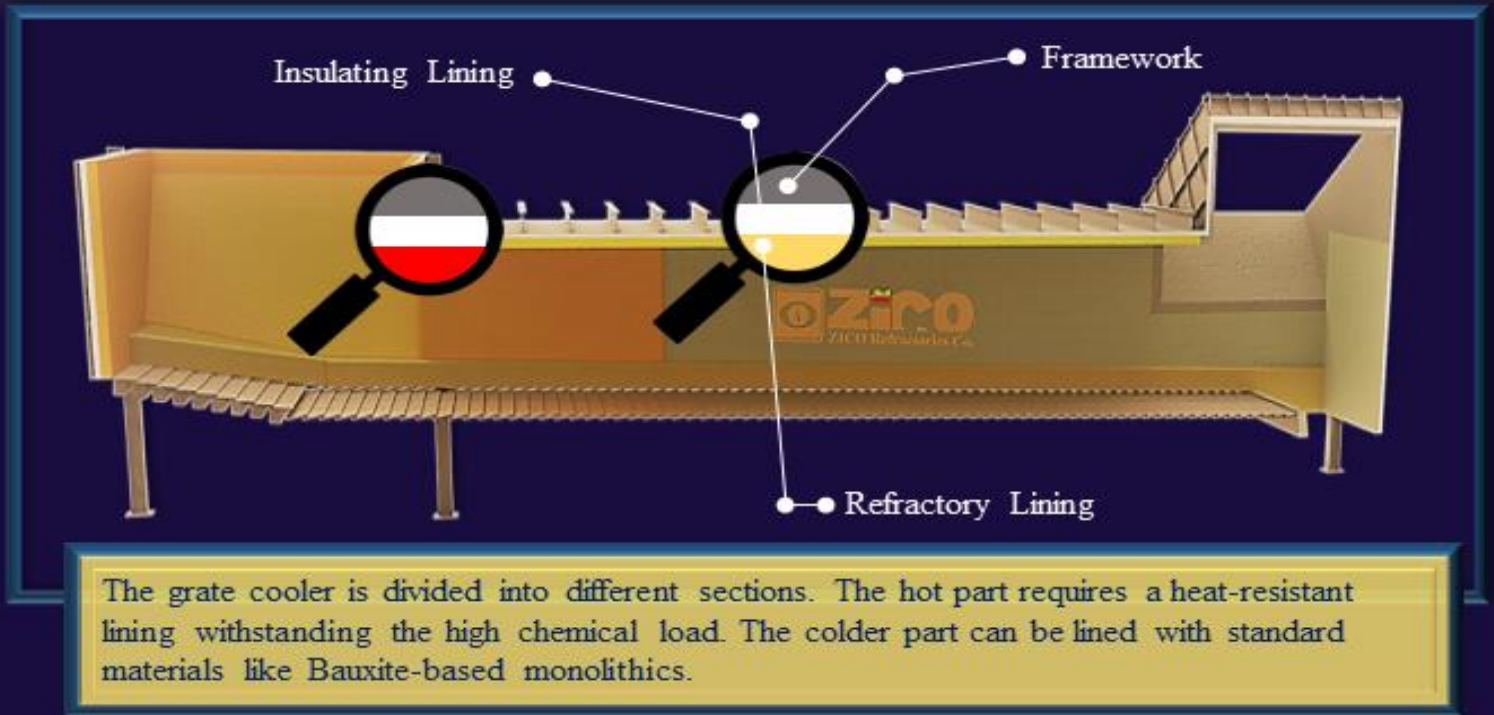
Framework

The most efficient solution for the kiln hood in terms of initial installation and repairs is a monolithic refractory lining. The rapid fluctuations in temperature require high thermal shock and chemical resistant materials that we will select from our product portfolio.





Grate Cooler



ZICO CAST 70L-AN-SiC 10

ZICO GUN 70L-AN-SiC 10

ZICO CAST 60L-SiC 30

ZICO GUN 60L-SiC 30

ZICO CAST 70L-AN

ZICO GUN 70L-AN

ZICO CAST 80L

ZICO GUN 80L

ZICO CAST IS1000

ZICO GUN IS1000





Demolition

ZICO has qualified personnel, for its demolition work in any type of industry, particularly in the cement industry. With this service, we minimize the risks of accidents and provide our clients with shorter execution times than with conventional methods. This work can be carried out both inside and outside the equipment such as cyclones, inlet cone, kiln hood, cooler, etc.





Installation

ZICO has qualified personnel, for installation in any type of industry, particularly in the cement industry.





Casting

Low Cement Casting

Product name	Main raw material	Water demand (%)	Bulk.Density(g/cm ³)	CCS 110°C (MPa)	Max service T (°C)	Chemical analysis (Average %)					
						Al ₂ O ₃	SiO ₂	CaO	Fe ₂ O ₃	SiC	ZrO ₂
ZICO CAST 97L	Tabular Alumina	5-5.5	3.3	100-130	1850	96-97	<0.2	<2.5	<0.1	-	-
ZICO CAST 90L-ZSiC5	Tabular Alumina/Zirconia/SiC	5-5.5	3.3	100-130	1800	88-92	<0.2	<2.5	<0.1	5	2
ZICO CAST 90L-AN	Tabular Alumina/Andalusite	5-5.5	3.2	90-120	1750	88-92	5-8	<2.5	<0.3	-	-
ZICO CAST 85L-SiC10	Tabular/SiC	5-5.5	3.1	90-120	1700	83-87	1-4	<2.5	<0.3	10	-
ZICO CAST 80L-SiC5	Tabular/Bauxite/SiC	5-6	3	80-110	1650	79-83	5-8	<2.5	<1.5	5	-
ZICO CAST 85L	Bauxite	5-6	2.9	80-110	1700	80-85	6-10	<2.5	<2	-	-
ZICO CAST 80L	Bauxite	5.5-6.5	2.8	80-110	1650	75-80	11-14	<2.5	<2	-	-
ZICO CAST 70L-AN-SiC10	Bauxite/Andalusite/SiC	5.5-6.5	2.9	80-110	1650	68-72	10-14	<2.5	<1.5	10	-
ZICO CAST 60L-SiC30	Bauxite/SiC	5-6	2.8	80-110	1550	55-60	5-7	<2.5	<1.5	30	-
ZICO CAST 70L-AN	Bauxite/Andalusite	5-6	2.8	80-110	1600	86-72	21-25	<2.5	<1.5	-	-
ZICO CAST 60L-SiC10	Bauxite/Fireclay/SiC	5.5-6.5	2.7	80-110	1550	58-62	20-23	<2.5	<2	10	-
ZICO CAST 55L-AN-SiC10	Bauxite/Andalusite/SiC	5.5-6.5	2.6	60-90	1550	53-57	26-30	<2.5	<1.5	10	-
ZICO CAST 60L-AN	Bauxite/Andalusite	5-6	2.6	60-90	1550	58-62	31-35	<2.5	<1.5	-	-
ZICO CAST 60L	Bauxite/Fireclay	5.5-6.5	2.6	60-90	1550	58-62	28-32	<2.5	<2	-	-
ZICO CAST 50L-SiC10	Bauxite/Fireclay/SiC	5.5-6.5	2.5	60-90	1500	45-82	29-32	<2.5	<2	10	-
ZICO CAST 50L-AN	Bauxite/Andalusite	5.5-6.5	2.5	60-90	1500	48-52	39-43	<2.5	<2	-	-
ZICO CAST 50L	Bauxite/Fireclay	5.5-6.5	2.5	60-90	1500	48-52	38-42	<2.5	<2	-	-

Regular Cement Casting

Product name	Main raw material	Water demand (%)	Bulk.Density(g/cm ³)	CCS 110°C (MPa)	Max service T (°C)	Chemical analysis (Average %)				
						Al ₂ O ₃	SiO ₂	CaO	Fe ₂ O ₃	SiC
ZICO CAST 50R-AN	Andalusite/Fireclay	7-8	2.6	70-100	1500	48-52	35-39	7-8	<2	-
ZICO CAST 45R2	Fireclay	7-9	2.2	40-70	1450	45-50	34-38	7-8	<2.5	-
ZICO CAST 40R2	Fireclay	7-8	2.4	40-70	1450	40-45	40-44	7-8	<2.5	-
ZICO CAST 40R3	Fireclay	12-14	2.2	25-50	1350	40-45	34-38	8-9	7.5-8.5	-
ZICO CAST 40R4	Fireclay	10-12	2.2	25-50	1350	36-40	41-45	8-9	4-5	-

Medium Cement Casting

Product name	Main raw material	Water demand (%)	Bulk.Density(g/cm ³)	CCS 110°C (MPa)	Max service T (°C)	Chemical analysis (Average %)				
						Al ₂ O ₃	SiO ₂	CaO	Fe ₂ O ₃	SiC
ZICO CAST 45M	Fireclay	8-10	2.3	50-80	1400	43-46	42-46	3-4	<2	-
ZICO CAST 45M-SiC5	Fireclay/SiC	8-10	2.35	50-80	1400	40-45	40-44	3-4	<2	5

Insulating Casting

Product name	Main raw material	Water demand (%)	Bulk.Density(g/cm ³)	CCS 110°C (MPa)	Max service T (°C)	Chemical analysis (Average %)			
						Al ₂ O ₃	SiO ₂	CaO	Fe ₂ O ₃
ZICO CAST IS1000	Fireclay/Perlite	35-45	0.9-1	2-5	1000	32-35	44-48	10-11	5-5.5



Gunning

Low Cement Gunning

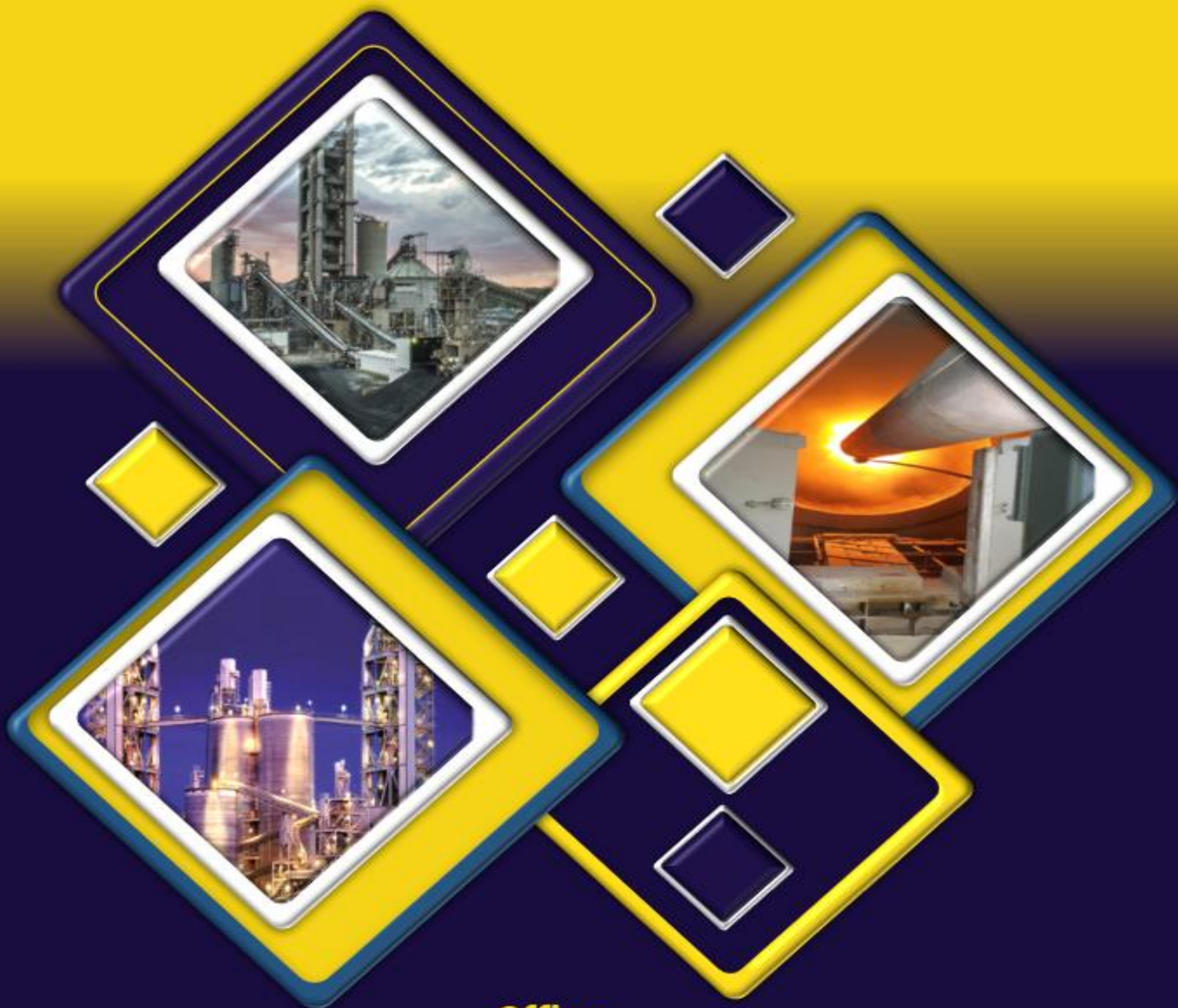
Product name	Main raw material	Water demand (%)	Bulk Density(g/c m3)	CCS 110°C (MPa)	Max service T (°C)	Chemical analysis (Average %)				
						Al2O3	SiO2	CaO	Fe2O3	SiC
ZICO GUN 80L	Bauxite	At nozzle	2.5	40-70	1650	79-83	6-10	<2.5	<2	-
ZICO GUN 70L-AN-SiC 10	Bauxite/Andalusite/SiC	At nozzle	2.6	50-80	1650	68-72	9-12	<2.5	<1.5	8-10
ZICO GUN 70L-AN	Bauxite/Andalusite	At nozzle	2.5	40-70	1600	68-72	19-23	<2.5	<1.5	-
ZICO GUN 55L-AN-SiC10	Bauxite/Andalusite/SiC	At nozzle	2.4	40-70	1550	53-57	25-28	<2.5	<1.5	8-10
ZICO GUN 60L-SiC30	Bauxite/SiC	At nozzle	2.6	50-80	1550	55-60	5-7	<2.5	<1.5	28-30
ZICO GUN 60L-SiC10	Bauxite/Fireclay/SiC	At nozzle	2.4	40-70	1550	58-62	18-21	<2.5	<2	10
ZICO GUN 60L-AN	Bauxite/Andalusite	At nozzle	2.4	40-70	1550	58-62	29-32	<2.5	<1.5	-
ZICO GUN 60L	Bauxite/Fireclay	At nozzle	2.4	40-70	1550	58-62	26-30	<2.5	<2	-
ZICO GUN 50L-SiC10	Bauxite/Fireclay/SiC	At nozzle	2.3	40-70	1500	48-52	27-31	<2.5	<2	10
ZICO GUN 50L-AN	Bauxite/Andalusite	At nozzle	2.3	40-70	1500	48-52	38-41	<2.5	<1.5	-
ZICO GUN 50L	Bauxite/Fireclay	At nozzle	2.3	40-70	1500	48-52	36-40	<2.5	<2	-

Regular Cement Gunning

Product name	Main raw material	Water demand (%)	Bulk Density(g/c m3)	CCS 110°C (MPa)	Max service T (°C)	Chemical analysis (Average %)				
						Al2O3	SiO2	CaO	Fe2O3	SiC
ZICO GUN 50R-AN	Andalusite/Fireclay	At nozzle	2.2	35-60	1500	48-52	33-36	9-10	<2	-
ZICO GUN 45R1-SiC5	Fireclay/SiC	At nozzle	2.2	35-60	1450	40-45	39-43	4-5	<2	5
ZICO GUN 45R2	Fireclay	At nozzle	2.1	35-60	1450	44-48	32-36	9-10	<2.5	-
ZICO GUN 40R2	Fireclay	At nozzle	2.1	35-60	1450	39-43	39-42	9-10	<2.5	-
ZICO GUN 40R3	Fireclay	At nozzle	2.1	25-50	1350	40-43	33-36	10-11	5-6	-
ZICO GUN 40R4	Fireclay	At nozzle	2.1	25-50	1350	35-40	39-42	10-11	5-6	-

Insulating Gunning

Product name	Main raw material	Water demand (%)	Bulk Density(g/c m3)	CCS 110°C (MPa)	Max service T (°C)	Chemical analysis (Average %)			
						Al2O3	SiO2	CaO	Fe2O3
ZICO GUN IS1000	Fireclay/Perlite	At nozzle	0.9-1	2-5	1000	30-35	42-46	9.5-10.5	5-5.5



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