

Refractory Solutions For **IRON & STEEL PRODUCTION**

Professional / Effective / Reliable



Iron & Steel

Non-ferrous

Glass

Cement & Lime



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Specialized in customizing refractory products for the
HIGH-TEMPERATURE INDUSTRY



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Welcome to Kerui

Expert of refractory solutions

Founded in 2004, Kerui Refractory is an international high-tech enterprise integrating R&D and innovation, manufacturing, solutions and service of high-performance refractory products. Kerui attached great importance on R&D. In the past decades, we've obtained one invention patent certificate and more than 20 utility model patent certificates. Kerui insists on technological innovation to provide customers with better products.



About Us

KERUI main products include refractory bricks, insulating bricks, ceramic fiber products, unshaped refractory materials, etc. All the products are widely applied in high-temperature industries worldwide, such as iron-steel, aluminum, power, glass, boiler, non-ferrous, cement industry, etc., contributing to the development of global high-temperature industry. The products are exported to Europe, America, Oceania, Southeast Asia, the Middle East and more than 50 countries and regions in the world.



Industries and Applications

Serving the Global High-temperature Industry



Metallurgical Industry

- Ferrous industry: steel / iron
- Non-ferrous industry: aluminum / lead / zinc / copper



Building Materials Industry

- Cement / lime kiln
- Glass



Power Industry and Others

- Power Station
- Industrial Boiler
- Energy
- Chemical Industry

Shaped Refractories

Magnesia Alumina Brick

Often used for the basic of open hearth and the tops of EAF.

- Magnesia Alumina Brick
- Magnesia Alumina Spinel Brick Chrome Compound
- Magnesia Alumina Spinel Brick



Item	Index
MgO (%)	≥ 80
Al ₂ O ₃ (%)	≥ 10
Apparent Porosity (%)	≤ 17
Bulk Density (g/cm ³)	≥ 2.90
Cold Crushing Strength (Mpa)	≥ 50
Permanent Linear Change (1500°C*2h) (%)	0~+0.3
Modulus of Rupture (1350°C*0.5h) (MPa)	≥ 3.5
Thermal Shock Resistances (1100°C, Water Cooling) (Cycle)	≥ 12

Magnesia Chrome Brick

Mainly used in the metallurgical industry, such as constructing open hearth furnace tops, electric furnace tops, external refining furnaces, and various non-ferrous metal smelting furnaces.

- Rebonding Magnesia Chrome Brick
- Fused Half Combine MgO-chrome Brick
- Direct Combination of MgO-chrome Brick
- Sintered Magnesia Chrome Brick
- Special MgO-chrome Brick



Item/Grade		MGe-16A	MGe-16B	MGe-12A	MGe-12B	MGe-8A	MGe-8B
MgO (%)	≥	50	45	60	55	65	60
Cr ₂ O ₃ (%)	≥	16	16	12	12	8	8
Apparent Porosity (%)	≤	19	22	19	21	19	21
Cold Crushing Strength (Mpa)	≥	35	25	35	30	35	30
0.2MPa Refractoriness Under Load (T/°C)	≥	1650	1550	1650	1550	1650	1530

Shaped Refractories

Magnesia Carbon Brick

Mainly used for the inner parts of converters, ladles, EAF, etc.



Item/Grade	Apparent Porosity (%)	Bulk Density (g/cm³)	Cold Crushing Strength (MPa)	High-temperature Bending Strength (1400°C*0.5h)(MPa)	MgO (%)	C (%)
	≤	≥		≥	≥	≥
MT-10A	4.0	3.02	40.0	6.0	80.0	10.0
MT-10B	4.5	2.97	40.0	/	79.0	10.0
MT-10C	5.0	2.92	35.0	/	77.0	10.0
MT-10D	6.0	2.87	35.0	/	75.0	10.0
MT-12A	4.0	2.97	40.0	6.0	78.0	12.0
MT-12B	4.0	2.94	35.0	/	77.0	12.0
MT-12C	4.5	2.92	35.0	/	75.0	12.0
MT-12D	5.5	2.85	30.0	/	73.0	12.0
MT-14A	3.5	2.95	38.0	10.0	76.0	14.0
MT-14B	3.5	2.90	35.0	/	74.0	14.0
MT-14C	4.0	2.87	35.0	/	72.0	14.0
MT-14D	5.0	2.81	30.0	/	68.0	14.0
MT-16A	3.5	2.92	35.0	8.0	74.0	16.0
MT-16B	3.5	2.87	35.0	/	72.0	16.0
MT-16C	4.0	2.82	30.0	/	70.0	16.0
MT-18A	3.0	2.89	35.0	10.0	72.0	18.0
MT-18B	3.5	2.84	30.0	/	70.0	18.0
MT-18C	4.0	2.79	30.0	/	69.0	18.0

Magnesia Brick

On the heating furnace and average heat furnace, magnesia bricks are mainly used for paving the surface layer of the bottom of the furnace and the lower part of the average heat furnace wall, which can resist the erosion of the oxide.

- Sintered Magnesita Brick
- Fused Rebonded Magnesita Brick
- Magnesita Olivine Brick and Magnesita Zirconium Brick



Item/Grade		M-98	M-97A	M-97B	M-95A	M-95B	M-91	M-89
MgO (%)	≥	97.5	97.0	96.5	95.0	94.5	91.0	89.0
SiO ₂ (%)	≤	1.00	1.20	1.50	2.00	2.50	/	/
CaO (%)	≤	/	/	/	2.00	2.00	3.00	3.00
Apparent Porosity (%)	≤	16	16	18	16	18	18	20
Bulk Density (g/cm³)	≥	3.00	3.00		2.95		2.90	2.85
Cold Crushing Strength (MPa)	≥	60	60		60		60	50
0.2MPa Refractoriness Under Load (T/°C)	≥	1700	1700		1650		1560	1500
Permanent Linear Change(%)	Xmin~Xmax	1650°C*2h -0.2-0			1650°C*2h -0.3-0		1600°C*2h -0.5-0	1600°C*2h -0.6-0

Shaped Refractories

High Alumina Brick

Mainly used for lining blast furnace, hot blast furnace, EAF tops, reverberatory and rotary kilns.

- Low Creep High Alumina Brick
- Low Creep Mullite and Corundum Mullite Brick
- Anti-stripping Alumina Brick
- Andalusite Brick



Item/Grade		LZ-80	LZ-75	LZ-70	LZ-65	LZ-55	LZ-48	LZ-75G	LZ-65G	LZ-55G
Al ₂ O ₃ (%)	≥	80	75	70	65	55	48	75	65	55
Apparent Porosity (%)	≤	21 (23)	24 (26)	24 (26)	24 (26)	22 (24)	22 (24)	19	19	19
Cold Crushing Strength (MPa)	≥	70 (60)	60 (50)	55 (45)	50 (40)	45 (40)	40 (35)	65	60	50
0.2MPa Refractoriness Under Load (T/°C)	≥	1530	1520	1510	1500	1450	1420	1520	1500	1470
Permanent Linear Change (%)	Xmin~ Xmax	1500°C*2h -0.4~0.2		1450°C*2h -0.4~0.1				1500°C* 2h -0.2~0.1	1450°C*2h -0.4~0	

Silica Brick

Mainly used for structural materials for coking furnace, glass melting kiln, acid steelmaking furnace and other thermal equipment.

- Silica Brick for Hot Blast Furnace
- Silica Brick for Coke Oven

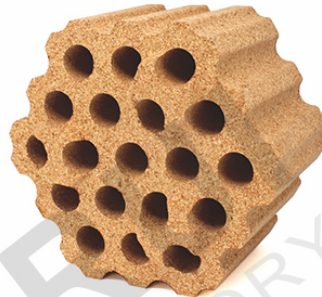


Item/Grade	GZ-94
SiO ₂ (%)	≥ 94
Fe ₂ O ₃ (%)	≤ 1.4
Apparent Porosity (%)	≤ 24
True Density (g/cm ³)	≤ 2.35
Cold Crushing Strength (MPa)	≥ 30
0.2MPa Refractoriness Under Load (°C)	≥ 1650

Shaped Refractories

Low Creep Checker Brick

Mainly used in the middle and upper part of the heat stove heat storage room, which has a heat storage effect.



Item/Grade		DRL-155	DRL-150	DRL-145	DRL-140	DRL-135	DRL-130	DRL-127
Al ₂ O ₃ (%)	≥	75	75	65	65	65	60	50
Apparent Porosity (%)	≤	20	21	21	22	22	22	23
Bulk Density*/(g/cm ³)		2.60~2.85	2.60~2.85	2.50~2.70	2.40~2.60	2.35~2.55	2.35~2.50	2.30~2.50
Cold Crushing Strength ^b (MPa)	≥	60	60	60	55	55	55	50
0.2MPa Creep Rate (%) 50h	≤	1550°C 0.8	1500°C 0.8	1450°C 0.8	1400°C 0.8	1350°C 0.8	1300°C 0.8	1270°C 0.8
Permanent Linear Change (%)	Xmin Xmax	1500°C*2h -0.2~0.2			1450°C*2h -0.2~0.2	1450°C*2h -0.3~0.2		

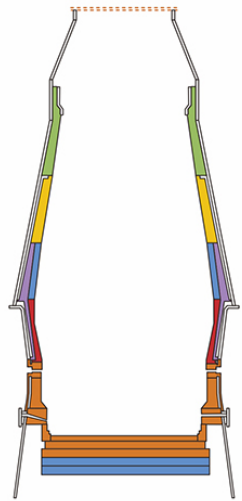
Monolithic Refractory



They are used for various high-temperature industrial equipment.

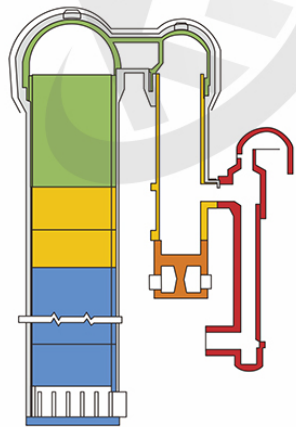
- RH furnace Corundum Spinel Castable and Corundum Castable
- Magnesia Chrome Qualitative Castable
- Alumina Chrome Castable
- Magnesia Ramming Mass
- Refractory Castable for Heating Furnace
- Ladle Castable
- Tundish Unshaped Refractory
- Dry-vibrating Refractory
- Lightweight Insulating Castable
- Refractory Mortar

Typical Configuration



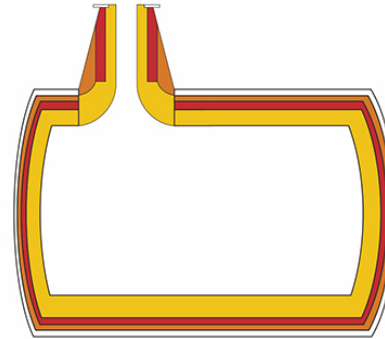
Blast Furnace

- Sillimanite brick, Sialon bonded sillimanite brick
- Sillimanite brick, Sialon bonded corundum brick
- Fired microporous alumina carbon brick
- Si3N4-SiC-71 SL-70, Sialon bonded corundum brick
- Corundum mullite brick, Sialon bonded corundum brick, Composite corundum brick
- High alumina brick



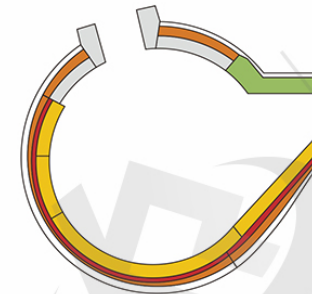
Hot Blast Furnace

- Silica brick for hot blast furnace, Low creep high alumina brick, Andalusite brick
- Low creep high alumina brick, Andalusite brick
- Low creep fire clay brick
- Mullite brick, Low creep high alumina brick, Andalusite brick
- Mullite brick, Corundum mullite brick
- Fire clay brick



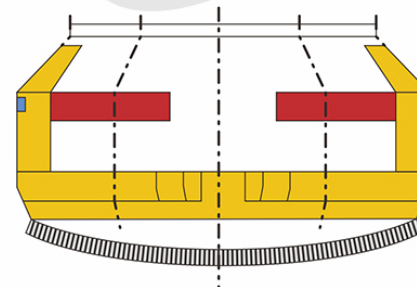
Mixer Furnace

- Silica carbide brick, Composite corundum brick
- Magnesite brick, High alumina brick
- High alumina brick, Fire clay brick
- Diatomite brick
- Micro expansion high alumina brick

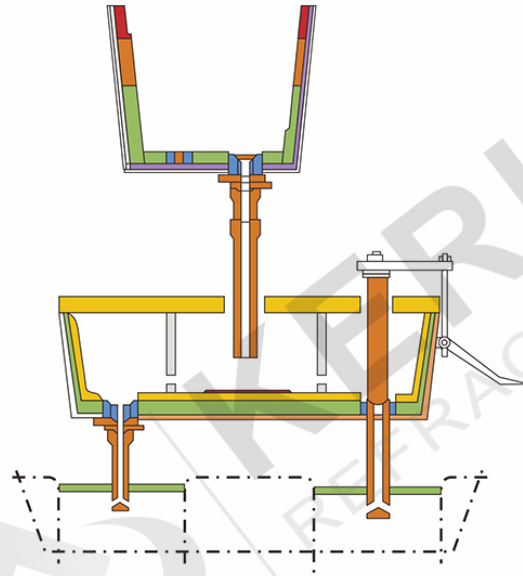


Converter

- Steep tapping slide
- Trunnion
- Lining
- Bottom

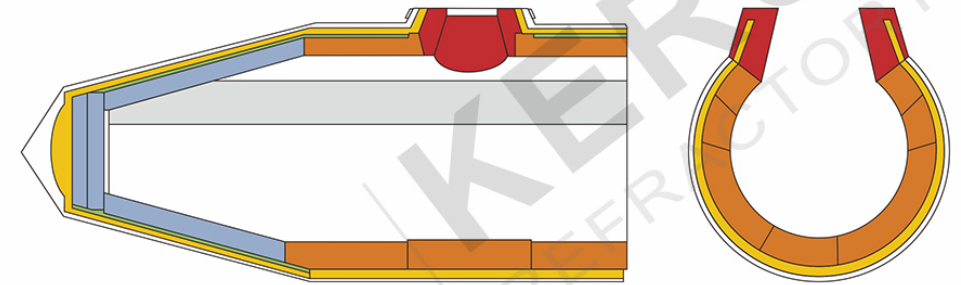


Typical Configuration



Ladle and Tundish

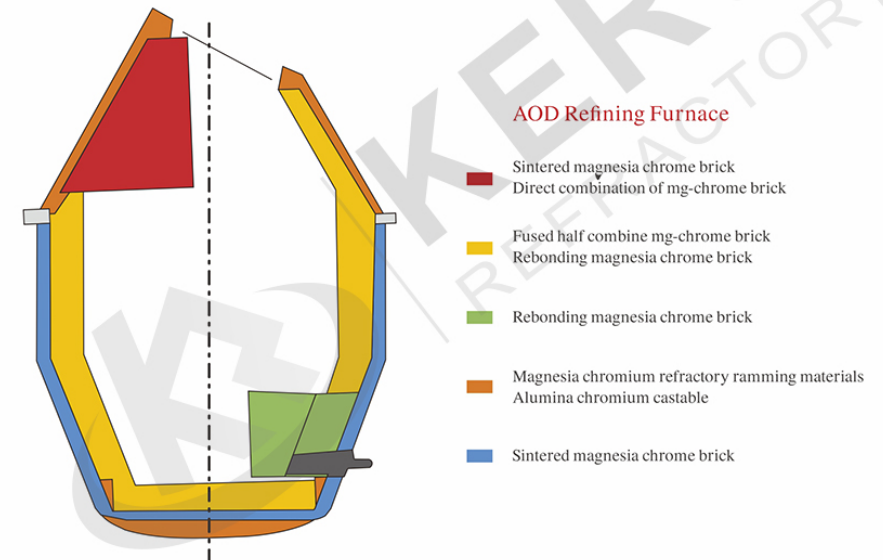
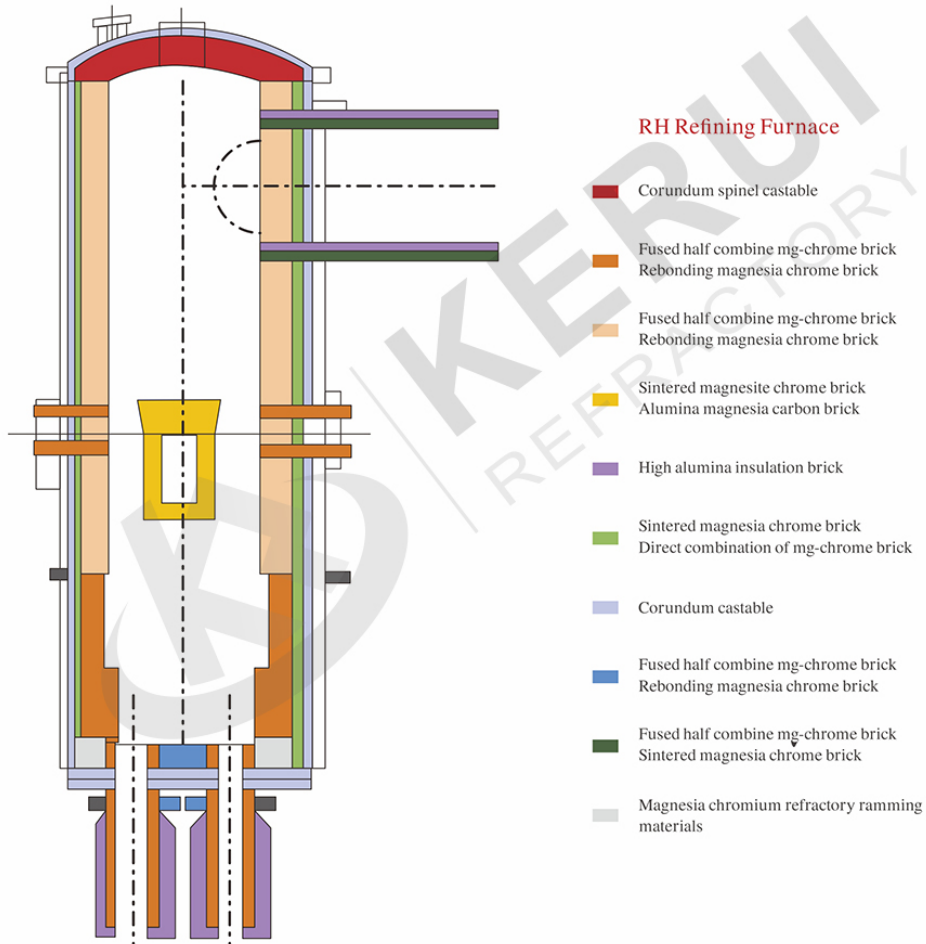
- Magnesia based gunning materials, Corundum spinel, High alumina spinel
- Self flowing castable, Thermal insulation refractory materials
- Chrome corundum brick
- Alumina carbon, Corundum mullite products
- Chromium corundum brick, Magnesia brick
- Magnesia, MgO-CaO Refractory Spray Coating
- High alumina brick, Fire clay brick



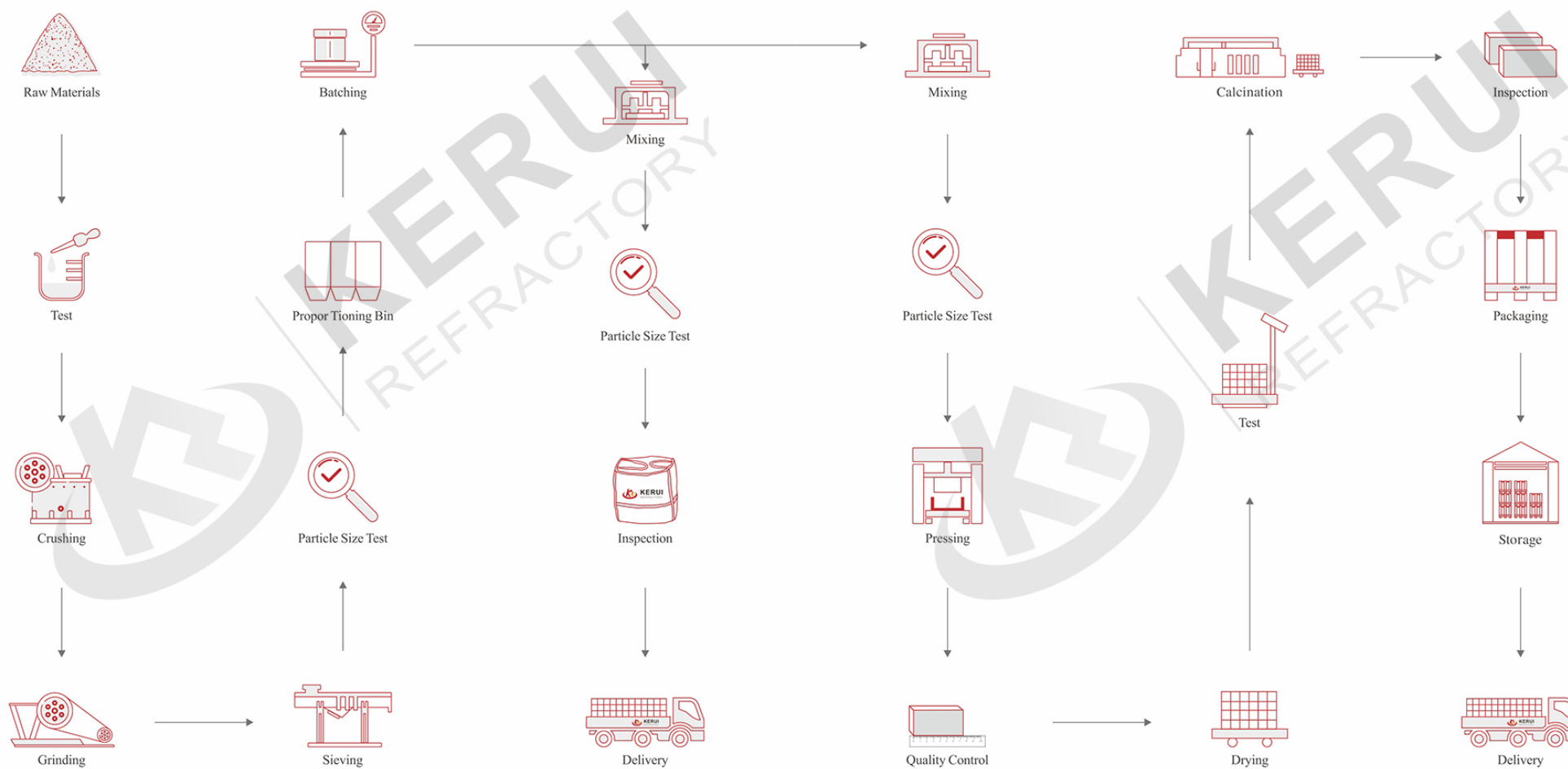
Torpedo Car

- High alumina steel fiber reinforced castable
- RTSC-70 brick
- Fire clay brick
- RTHSC-50, RTFSC-55 brick
- High alumina castable

Typical Configuration



Process Flow



KERUI all over the world

Kerui Refractory has a steady and widespread customers base both at home and abroad. With more than 20 years' development and upgrading, KERUI has become the first choice of worldwide customers across 5 continents, including Asia, Europe, North America, South America, Oceania.

We serve the high-temperature industries all over the world, including iron and steel, aluminum, glass, cement, etc. We have a team of highly qualified and experienced application engineers, providing the "TOTAL REFRACTORY SOLUTIONS" to customers.



KERUI Partners



Comprehensive Service System

KERUI provides a full range of professional service from pre-sales to after-sales.



Materials selection and solutions
provided of refractory materials



Installation of refractory equipment



EPC and maintenance



Stock in storage of refractory products



Training of refractory technology



Research & development on
new technology