


SHANDONG QISHUAI WEAR RESISTANT EQUIPEMNT CO.,LTD

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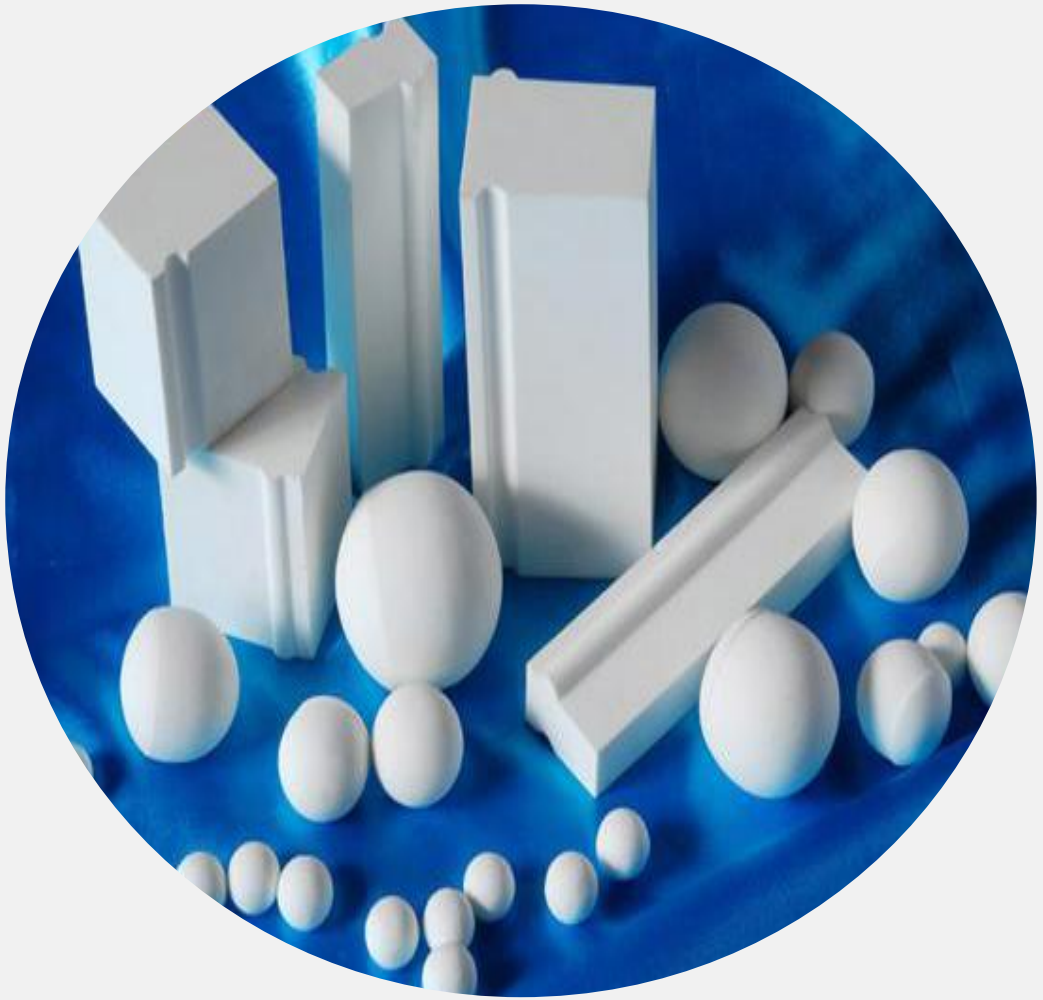
2 PRODUCTS

- High alumina ceramic tiles
- isostatic pressing alumina ceramic pipe
- Alumina ceramic products
- Rubber ceramic composite lining plate
- Wear resistant chromium carbide plate
- Wear resistant chromium tube

High alumina ceramic tiles



The features of ceramic brick:

1.High hardness
Its Rockwell hardness HRA80-90, hardness second only to diamond, and the wear-resistant is far more than wear-resistant steel and stainless steel.

Excellent wear resistance
Equivalent to 266 times than the manganese steel and 171.5 times of the high chromium cast iron. In the same conditions,it can extend the service life at least above ten times.

2.Light weight
The weight is only half of steels, so can greatly reduce the equipment load.

3.Corrosion resistance
High alumina ceramics are inorganic oxides with extremely stable molecular structure and no electrochemical corrosion, thus they can resist erosion of acid, alkali, salt solutions and organic Solvents.

Stability of heat temperature
Working temperature of high alumina ceramics can be as high as 1600℃.

4.Smooth surface
High alumina ceramics have the properties of smooth and adhesion, the roughness is only 1/6 that of steel pipes thus less flow Resistance.

The most popular size as below,also customized any sizes.

100*100*20mm(4″ *4″ *3/4″)
150*100*13mm(6″ *4″ *1/2″)
150*100*15mm(6″ *4″ *5/8″)
150*100*25mm(6″ *4″ *1″)
150*50*25mm(6″ *2″ *1″)
100*75*25mm(4″ *3″ *1″)

The detailed parameters of ceramic brick:

Performance index	92series	95series	Performance index	92series	95series
Content	≥92	≥95	Moh's Hardness	9	9
Bulk Density	3.63g/m³	3.68g/m³	Rate of Water Absorption (%)	≤0.01	≤0.01
Bending strength (M pa)	255	275	Rochwell Hardness(HRA)	≥85	≥85
Compressive Strength(Mp)	≥2000	≥2250	Fracture Toughness (M pa)	3.65	3.75
Thermal expansion coefficient(6.5-7.5)	7.2×10-6m/×m.k	7.5×10-6m/×m.k	Dielectric Strength	10×10-6	10×10-6
Thermal Conductivity	20W/m.k	20W/m.k	Temperature	1600	1600

isostatic pressing alumina ceramic pipe

Product Description

92% & 96% alumina ceramic tube is mainly used in wear resistance fields.Usually alumina ceramic tube will be installed with steel tube, and we could supply the
finished products as custom drawing.

Product Advantages

1. Molding: Isostatic pressing
2. Wear-Resisitance: Approx 10times stronger than common pipes under same conditions
3. Corrosion resistance: Strong acid or alkali resistant
4. Scouring abrasion resistance: Can bear scouring abrasion by large grain material without damage
5. Good fluidity : Smooth surface ensure the free flow of material without blocking
6. Low maintenance cost: Super wear-resistance reduce the maintenanc frequency and also the maintenance cost.

isostatic pressing alumina ceramic pipe

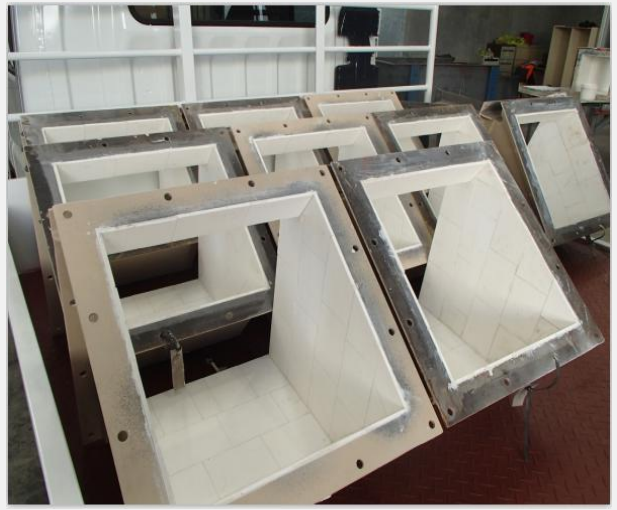
Inner Diameter:MM,thickness 5-30MM(We can produce as your demands and drawings!)

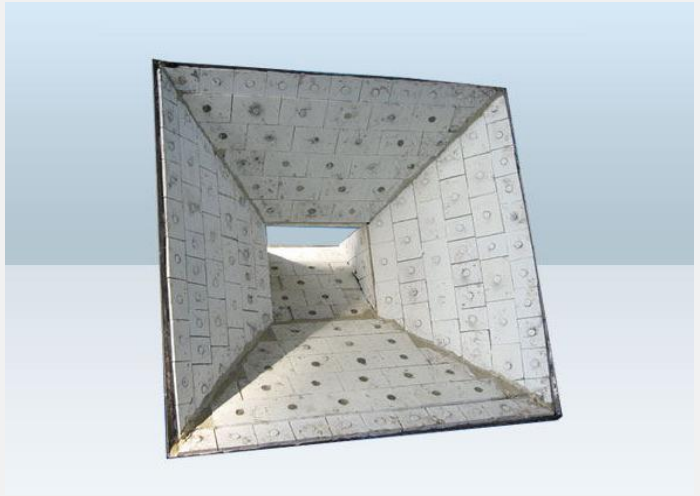
φ40	φ81	φ125	φ194	φ307
φ50	φ86	φ144	φ200	φ330
φ57	φ90	φ150	φ205	φ356
φ58	φ96	φ157	φ220	φ417
φ60	φ97	φ163	φ230	φ438
φ65	φ101	φ172	φ240	φ450
φ73	φ110	φ185	φ252	φ498
φ76	φ120	φ187	φ295	φ710

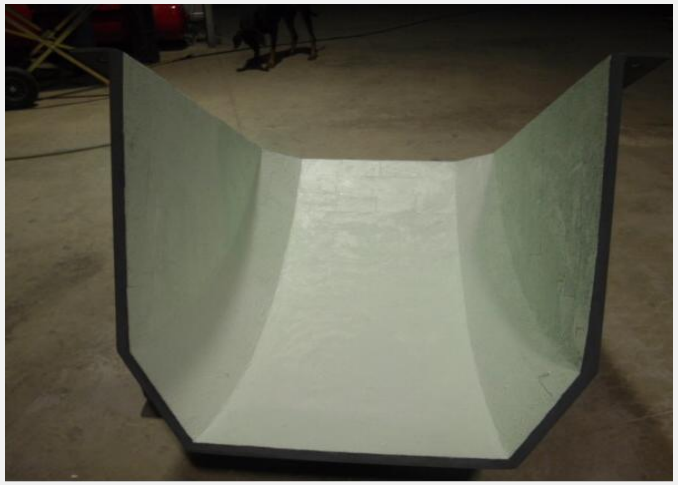
Technique Data

Items	92%	95%
Al2O3%	≥92	≥95
Fe2O3%	≤0.20	≤0.15
Mohs' hardness	8	9
Water Absorption (%)	≤0.02	≤0.02
Bulk Density(g/cm3)	≥3.60	≥3.65
Abrasion(%)	≤0.02	≤0.02

Alumina ceramic products







Rubber ceramic composite lining plate

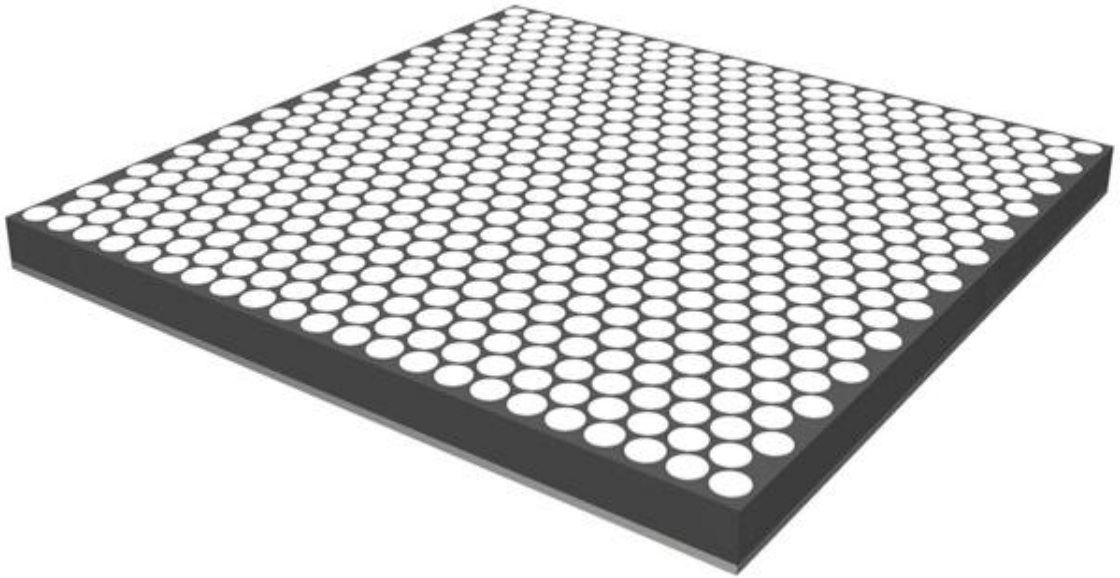
Mineral Processing equipment operates in some of the harshest and remote locations. It is crucial to the Mineral Processing industries that this equipment continues to operate efficiently and its lifecycle is maximised to minimise down time. By appropriately protecting equipment from the extreme wear caused by the high speed and flow rates of ore when processed as a slurry ensures better equipment longevity. Slurry is highly abrasive and can not only cause wear damage to wet processing equipment but also with the inclusion of chemicals and heat, there is constant risk of corrosion and dangerous leakage.

Composite Ceramic Wear Liners can be supplied as standard pads, or cut panels to meet customer drawings and specifications, or can be custom engineered to ensure maximum suitability for your specific application.

Ceramic Wear Panels can also be supplied with steel backing for mechanical fastening onto equipment for quicker and easier replacement.

Qishuai Composite Ceramic Wear Liners last longer, requiring less change-outs, reducing downtime and increasing the productivity of your equipment.

Rubber ceramic composite lining plate



The rubber composite ceramic liner plate have two forms of rubber+ceramic and metal+rubber+ceramic. It is a special ceramic pieces, embedded by vulcanization in the special rubber, composition a square wear-resistant rubber liner, and then by welding or paste fixed to the inner shell of the equipment on the steel plate, to form a strong and buffer anti-wear layer.

normal size:

500*500*30	**300*400*32**
500*500*40	**188*300*30**
300*300*25	**316*476*60**

Ceramic material data:

Ceramic content	Bulk density	Moh's hardness	Rate of water absorption(%)	Bending strength(M pa)	Fracture toughness(M pa)	Rockwell hardness(HRA)
92% and 95%	3.63g/m³(92%al2o3) 3.68g/m³(95%2o3)	9	≤0.01	255(92%al2o3) 275(95%al2o3)	3.65(92%al2o3) 3.75(95%al2o3)	≥85

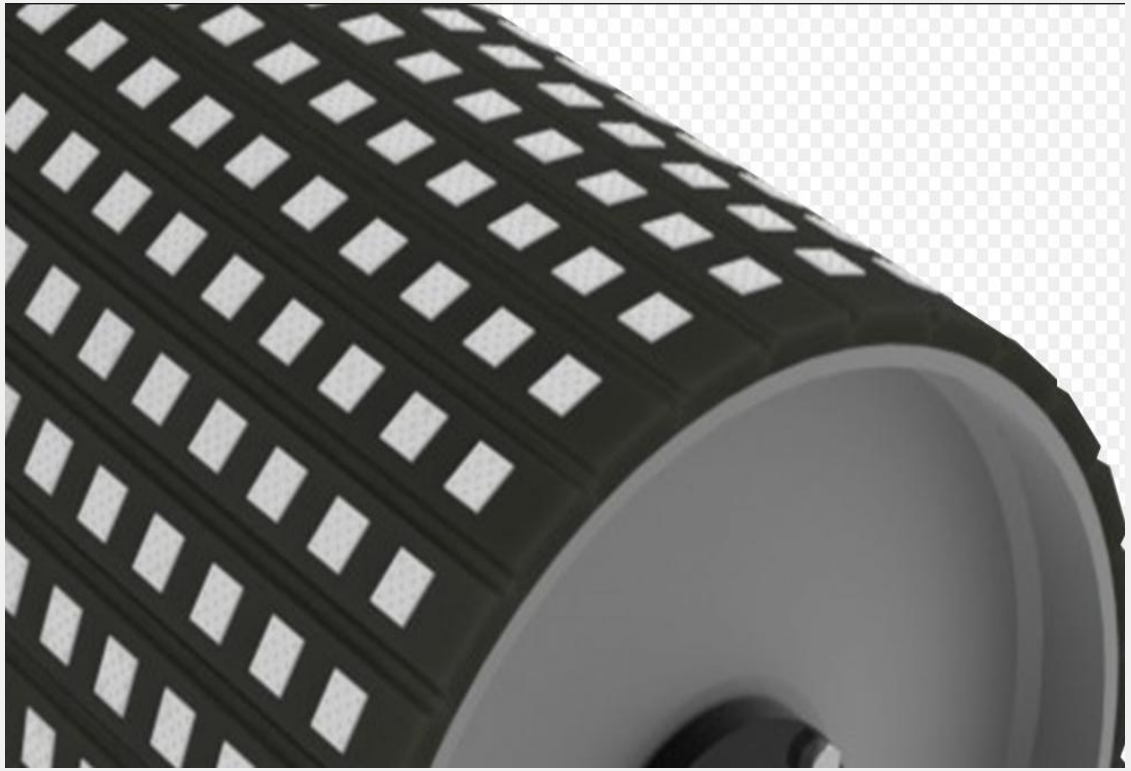
Rubber material data:

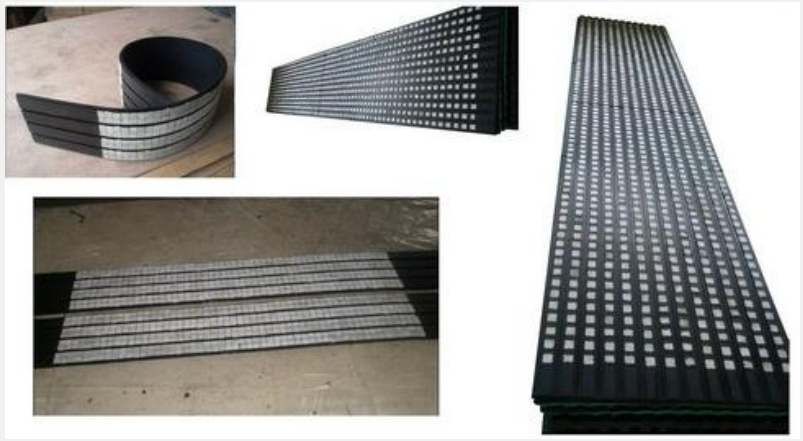
Tensile strength	Rubber elongation	shore hardness	break permanent deformation	rubber proportion	Main composition
16MPa	450-500%	60±5	30%	1.2	Natural rubber
Peer strength between rubber and ceramic/steel and ceramic				6MPa	
Bonding strength between rubber and ceramic				4MPa	

Note: the rubber species is natural rubber or customized according to your requirements.

Alumina ceramic rubber composite pulley lagging

Vulcanize the wear-resistant ceramics with dimple on the surface onto the special rubber according to some curtain layout by an advanced hot vulcanization process to get a special wear-resistant composite material, which is then instead of the traditional rubber pasted onto the surface of the pulley to form the ceramic pulley lagging,which means low maintenance and less downtime.





Alumina ceramic rubber composite pulley lagging

QISHUAI

Standard Size of ceramic pulley lagging

Size	Length (mm)	Width(mm)	Ceramic thickness (mm)	Rubber thickness (mm)
800×500×16mm	800	500	8	8
800×500 ×17mm	800	500	8	9
800x500×18mm	800	500	10	8
800×500×19mm	800	500	10	9
800x500×20mm	800	500	12	8
800x500×21mm	800	500	12	9

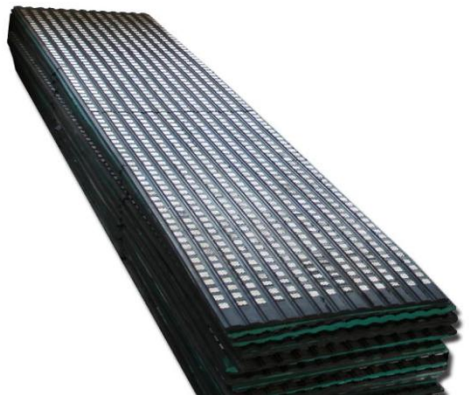
Technical details of the rubber and alumina ceramic

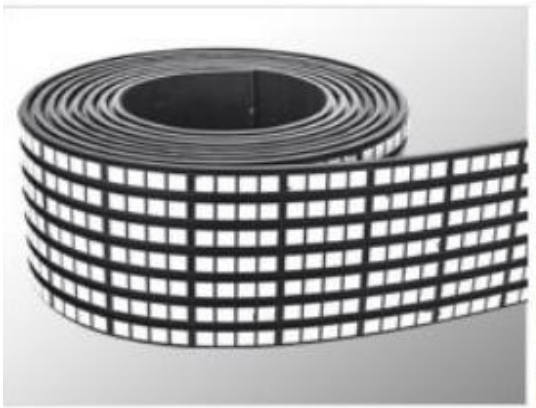
Main Technical Parameter of Wear Resistant Ceramic

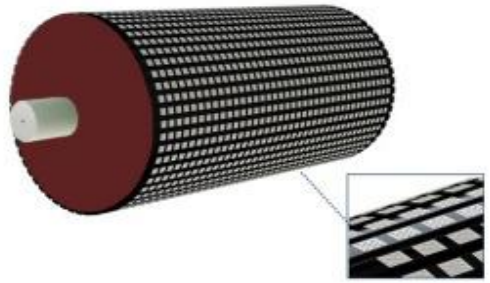
Item	Index
Alumina Content	≥92%
Bulk Density	≥3.63g/cm³
Rockwell Hardness (HRA)	≥90
Compressive Strength	≥850MPa
KIC Fracture Toughness	≥4.8MPa.M1/2
Bending Strength	≥290MPa
Thermal Conductivity	20W/m.k
Coefficient of Thermal Expansion	7.2×10-6m/×m.k

Main Technical Parameter of Rubber

Item	Index
Tensile Strength	≥27MPa
Break Extension	≥300%
Shore Hardness	60-70
Break Permanent Deformation	≤24%
Rubber and Ceramic Adhesion	≥3.0MPa
Temperature	≤100-300℃
Rubber Aging Life	≥8 year



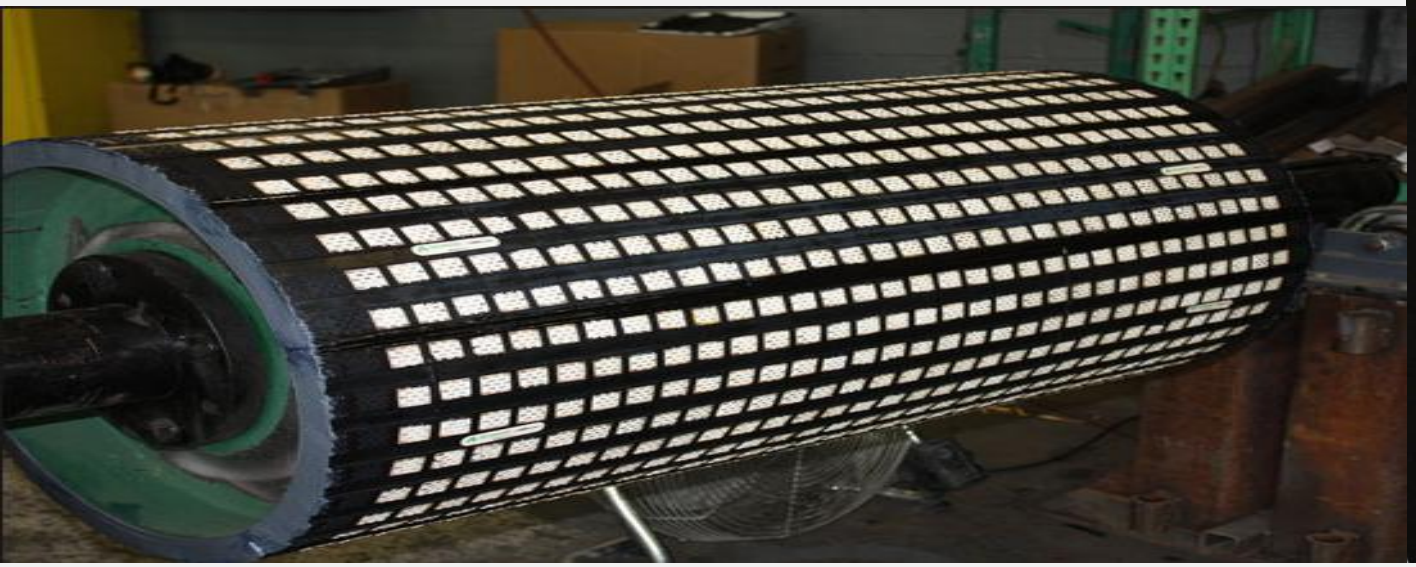




Alumina ceramic rubber composite pulley lagging

The features of the alumina ceramic rubber composite pulley lagging

Features of non-stick rubber sheet:
1.Synthetic rubber
2.Electrostatic prevention
3.Flame resistant
4.Exceptionally high abrasion resistance and modulus
5.Exceptional grip
6.Exceptional wear resistance
7.Will not prematurely harden
8.Bonding layer
9.Press cured using high temperature and pressure



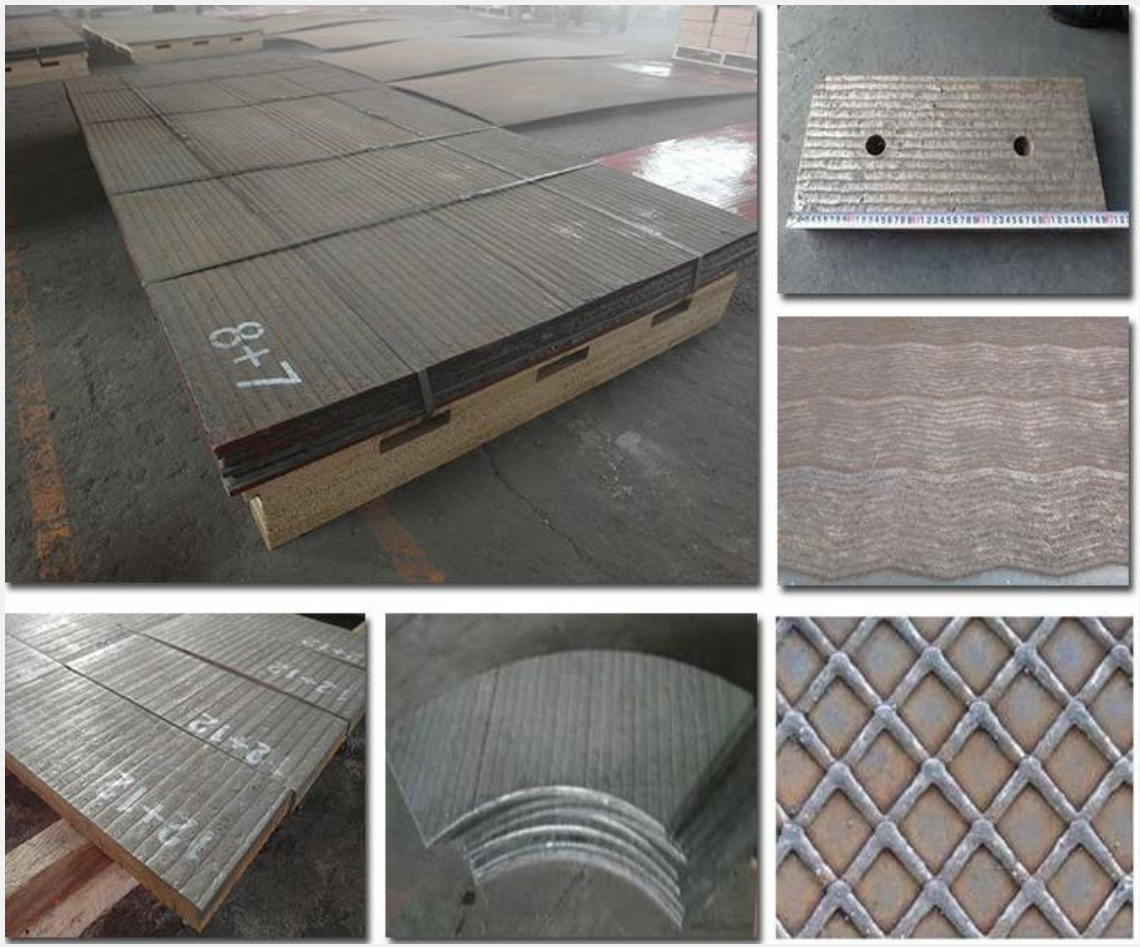
Wear resistant chromium carbide plate

Complex-Carbide Overlay Plate

The bimetallic (meaning two types of metals) product starts with standard steel base plate that is then fused or overlaid with chromium carbide. chromium carbide metallurgically bonds to the steel’ s surface to form a protective and durable surface that will not separate from the base metal. Chromium carbide overlay steel plate is extremely hard, resistant to both wear and impact, and withstands high temperatures.

WEAR PLATE AFTER HARDFACING:
1- Thickness tolerances : -0/+1 mm
2- Physical properties : resistant to abrasion and erosion till 800° C.
3- Flatness tolerances : max. 3 mm/1000 mm.
4- Dimensions of the standard plates : customized
5- Application: high hardness and abrasion

Wear resistant chromium carbide plate



High chromium carbide plate features：

1.High hardness
Its Rockwell hardness HRA80-90, hardness second only to diamond, and the wear-resistant is far more than wear-resistant steel and stainless steel.

Excellent wear resistance
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2.Light weight
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High alumina ceramics are inorganic oxides with extremely stable molecular structure and no electrochemical corrosion, thus they can resist erosion of acid, alkali, salt solutions and organic Solvents.

Stability of heat temperature
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4.Smooth surface
High alumina ceramics have the properties of smooth and adhesion, the roughness is only 1/6 that of steel pipes thus less flow Resistance.

Wear resistant chromium carbide plate

Product Name	China made high chrome carbide overlay Wear liner plate
Material	High chromium carbide overlay plate
Thickness	3+3,6+4,8+6,10+10,12+12,etc **Or as your requirement.**
Hardness	**50-65 HRC**
Surface Treatment	Hardfacing , clading ,coated.
Technique	Hardfacing Advanced **submerged arc welding / open arc welding** technology
Chemical Composition	C : **4.0-5.0%** Cr : **24-45%** Mn : **1.0-5%**
Base Plate	Q235 / Q345
Plate Size	Length: 3000mm Width: 600-1500mm Size van be **customized**
Feature	High wear resistance **12-20 times** higher than common plate **5-10 times** than low alloy steel plate **2-3 times** than high chromium cast iron plate
Delivery time	7 days for sample 25 days for production
Packaging details	Steel frame or as required package
Application	Mining,Steel,Cement,Power,Port,etc.

Wear resistant chromium carbide plate

HARDFACING CHROME CARBIDE OVERLAY PLATE NORMAL THICKNESS

Standard Dimension			
Plate Size	Normal Thickness	Overlay Thickness	Base Plate Thickness
1500*3500mm	1/4"	1/8"	1/8"
	3/8"	3/16"	3/16"
	1/2"	1/4"	1/4"
	3/4"	3/8"	3/8"
	1"	1/2"	1/2"
Other plate size and thickness can be customized.			

Wear resistant chromium tube

Wear Resistant Alloy Tube

Chromium Carbide Overlay (CCO) Steel Pipe is chromium carbide overlay on the inside diameter of the standard wall pipe.

Wear resistant chrome pipe is composed of the wear base material and the wear layer, the wear layer is generally accounts for 1/3or 2/3 of total thickness; The wear layer and the base material is combined through metallurgy, so that the wear layer can’ t fall off, and can bear stronger impact.

Wear resistant chromium tube

Wear Resistant Alloy Tube

The features of chrome carbide overlay steel pipe:

1-preferable wearlessness

2-superior heat resistant performance

3-Excellent machining performance

4-Superior cost performance effect

Chemical composition:

Cr	C	Si	Mn	others	Hardness
24-30%	4%-5%	0.5%-1.5%	0.5%-2.5%	Less than 2%	58-62HRC

Hardfacing layer information:

Hardness	HARDNESS TOLERANCES	Thickness tolerances	Weld pool	Welding direction
58-62HRC	-0/+1,5 HRC	-0/+1 mm	2mm	Lengthways of the plate

Wear resistant chromium tube

The advantage of CCO pipe:

1-In the inner or external wall of general steel pipe, with wear resistant pipe welding machine directly clad wear resistant layer of high carbon high chromium. Compared with manual welding,automatic welding will not have wear resisting layer off phenomenon, improve the service life of wear resistant pipe.
2-Can be cut,formed and welded
3-Cost effective
4-Increased wear life of piping systems
5-Minimise downtime
6-Reduce maintenance and operational costs
7-Weld overlay can be applied to two sides for added strength and durability
8-increase production

chromium carbide plates application in cement

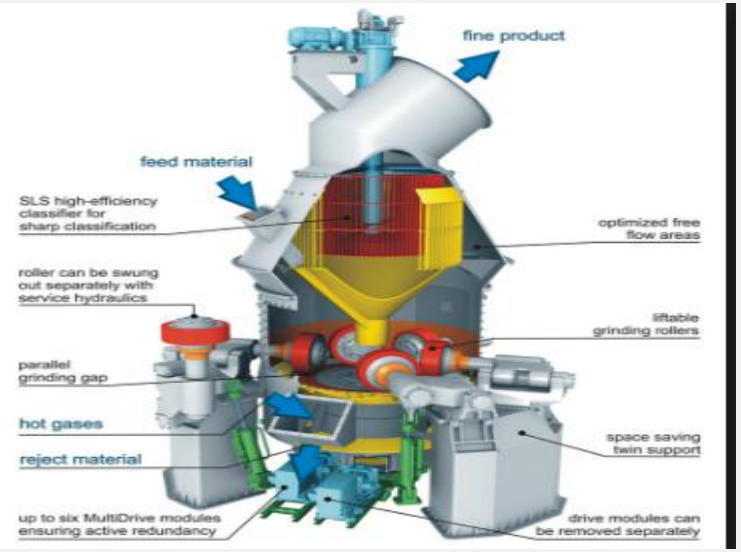
In the cement production industry, vertical mill is the first choice of raw material mill in the new dry process cement plant due to its high efficiency, energy saving and environmental protection. It is widely used in crushing and grinding of raw materials and slag. However, because of its large amount of material handling, if you do not wear wear-resistant materials used to prepare vertical wear parts, the service life of only a few months.The use of high-chromium wear-resistant composite board grinding mill liner, roller sheath, air guide cone liner, chute liner into the material, tie rod jacket and powder moving / static guide vanes, etc., can effectively extend the service life and improve Vertical mill efficiency of the work unit.

QS products offer high performance wear solutions for all areas of modern cement plants, from extraction and screening applications in the quarry to hoppers, cyclones and chutes in the packing plant. The use of high-chromium wear-resistant composite board grinding mill liner, roller sheath, air guide cone liner, chute liner into the material, tie rod jacket and powder moving / static guide vanes, etc., can effectively extend the service life and improve Vertical mill efficiency of the work unit.. Whether at ambient or elevated temperatures QS Linings products provide unrivalled performance solutions

chromium carbide plates application in cement

Mainly used for raw material feeding slot and conveyor slot and other parts. The use of surfacing wear-resistant steel plate can be made of wear-resistant material under the mouth or pipe. You can also lay a layer of surfacing wear-resistant steel in the original cutting mouth. The specific size can be from the welding manufacturer at the factory, according to user needs using plasma cutting machine cutting completed. Installation can be installed by bolts or welding installation of two ways.

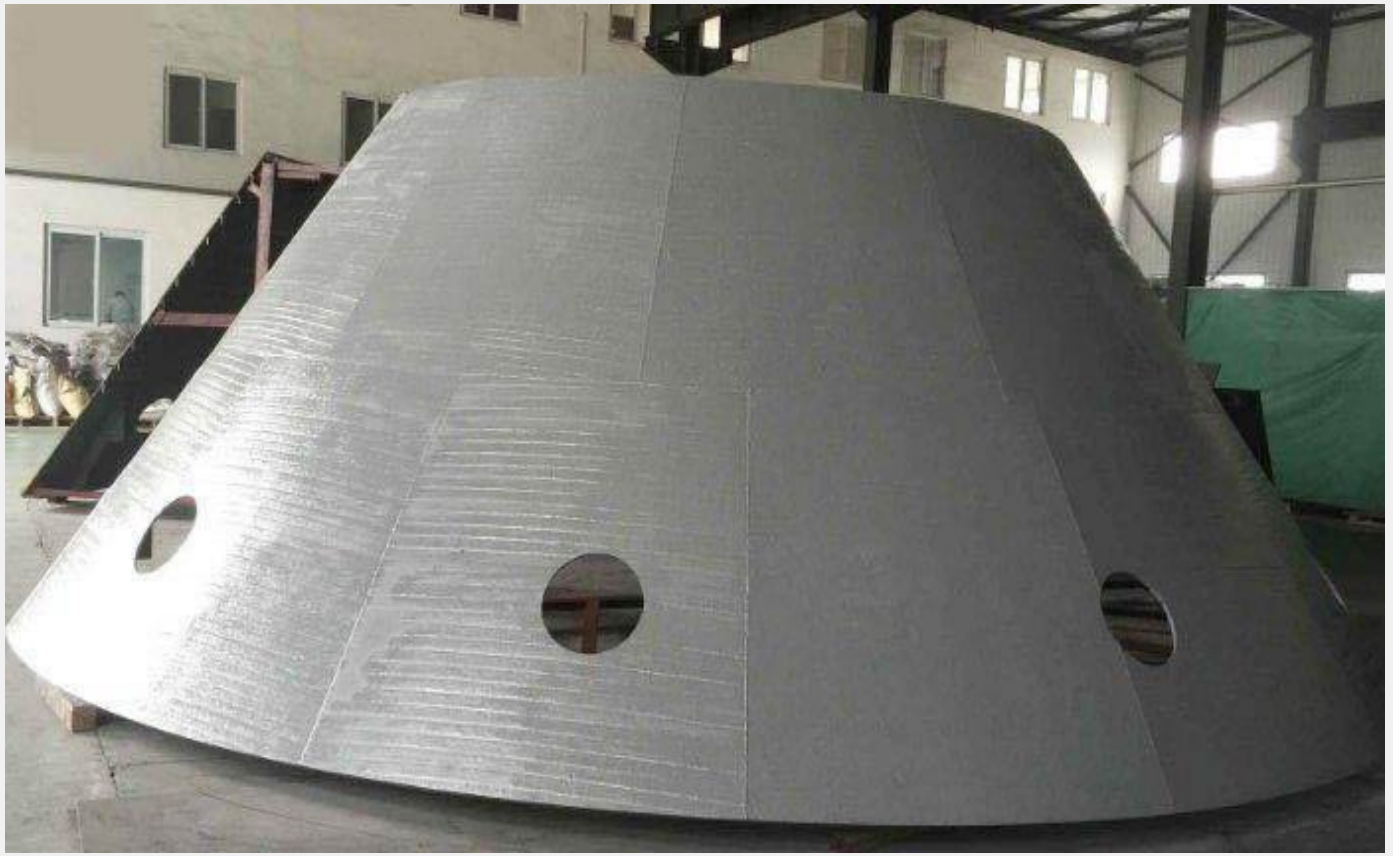
It is generally recommended to use 8 +4 or 8 +6 surfacing wear plates, the welding method is used to weldthe wear plate inside the original spout. Welding, the composite wear-resistant steel base (Q235 steel)around the central or out of the plug hole (depending on the specific requirements of the scene to determine) and the original opening of the mouth can be welded together,the construction easy. Wear-resistant alloy plate than the wear-resistant performance,it has light weight, more convenient installation and transportation. Raw materials Yoshizuki, by the impact of wear faster, but easy to repair, the general application of 8 +4 or 6 +6 wear plate.



chromium carbide plates application in cement

Application of Surfacing Wear Resisting Steel Plate in Raw Material Vertical Mill

The application of surfacing wear resistant steel plate in raw material vertical mill is mainly used for mill shell guard and grinding roller wear guard plate. As raw material mill cement mill is basically a mixed state of wind powder, air flow faster, entrained raw meal powder. Therefore, wear on the mill equipment larger. Generally wear the inner wall of the mill shell installation of wear-resistant steel, arc or block welding can be used in the mill shell wall, wear-resistant layer inside the arc. The shell can play a good anti-wear effect, once installed, almost do not need to be replaced again..



chromium carbide plates application in cement

Separator guide vane

Separator guide blades using high-quality bright arc hardfacing welding wire in the plastic very good high-quality steel surfacing welding made of wear-resistant materials. Wear layer is a high content of chromium carbide wear-resistant composite board

Product Installation: Before the guide vanes are installed, the guide vanes and the fixing base are fixed with the hexagonal bolts, and adjusted to the proper angle.

Note: The guide vane wear depends on the selection of fineness, when the raw material required more than the sieve, wear faster.

Product advantages: Separator guide vanes have better processability; with medium or higher impact resistance; with superior heat resistance; with excellent wear resistance; surface roughness, non-dip materials; extend the use of spare parts; reduce production Cost; improve production efficiency.

chromium carbide plates application in cement

Roller assembly repair and shield

According to the actual situation on the ground, the specific repair the following situations:

1, inspection: special tools for disassembly, disintegration, unprotected parts and components to implement protection, and then piece by piece inspection to determine the repair program.

2, roll core: first to do the outer surface MT, UT flaw detection, such as no cracks, the outer cylinder with vertical machining to ensure roundness. After processing if there is no quality problem in the welding wire. Confirm no welding defects and then upright car processing, the last to do MT, UT inspection. If there is damage to the inner surface, the repair method Ibid.

3, the spindle: If there is no quality inspection after checking the relevant size, if the shaft wear, select the repair method according to the degree of injury, until the drawings meet the requirements.

4, bearing: clearance meet the requirements, no obvious damage, then clean and reuse; If the gap does not meet the requirements, to be replaced.

5, other parts: the bearing cover, inside and outside the distance ring, around the seal ring and all other parts to check, size review, the problem of repair, repair can not be replaced.

6, the key technical parameters: In strict accordance with the drawings, including the outer surface hardness HB130-170 range.

7, issued a testing report, repair materials, materials reports, parts inspection reports, assembly reports and other technical information.

Roller holder and roller shaft protection: Wear-resistant steel plate making bracket and roller shaft sheath. General wear roller bracket wear plate. Wear-resistant layer outward, shop welding brackets, brackets can be protected from wear and tear. Wear roller shaft protection, wear-resistant steel plate can be used to make arc sleeve. Wear layer in the arc outside. The production of two semi-circular arc, the scene card in the shaft, welded into a whole can. Milling roller shaft from wind powder wear

chromium carbide plates application in cement

chromium carbide plates application in cement

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The others wear resistant parts

PRODUCTS APPLICATION

Iron and Steel Smelting Industry

Thermal Power Industry

Coal Mining Industry

Machinery Manufacturing Industry

Water Pump Industry

Petrochemical Industry




WARMLY WELCOME TO VISIT US!

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