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# Ceramic Grinding Roller

## For Vertical Roller Mill

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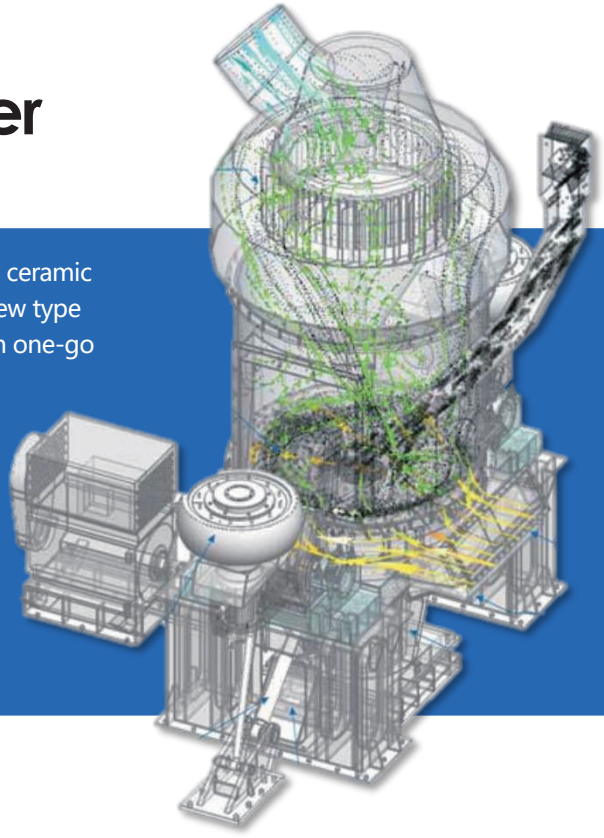
# Ceramic Grinding Roller



Ceramic grinding rollers are made of wear-resistant industrial ceramic particles (inlay) and high-chromium cast iron (matrix). It's a new type of composite wear-resistant grinding roller produced through one-go pouring & casting technology.

Ceramic grinding rollers are considered as the best wear-resistant solutions for vertical mills, and now are widely used in cement, metallurgy, electric power, construction, mining and other industries.

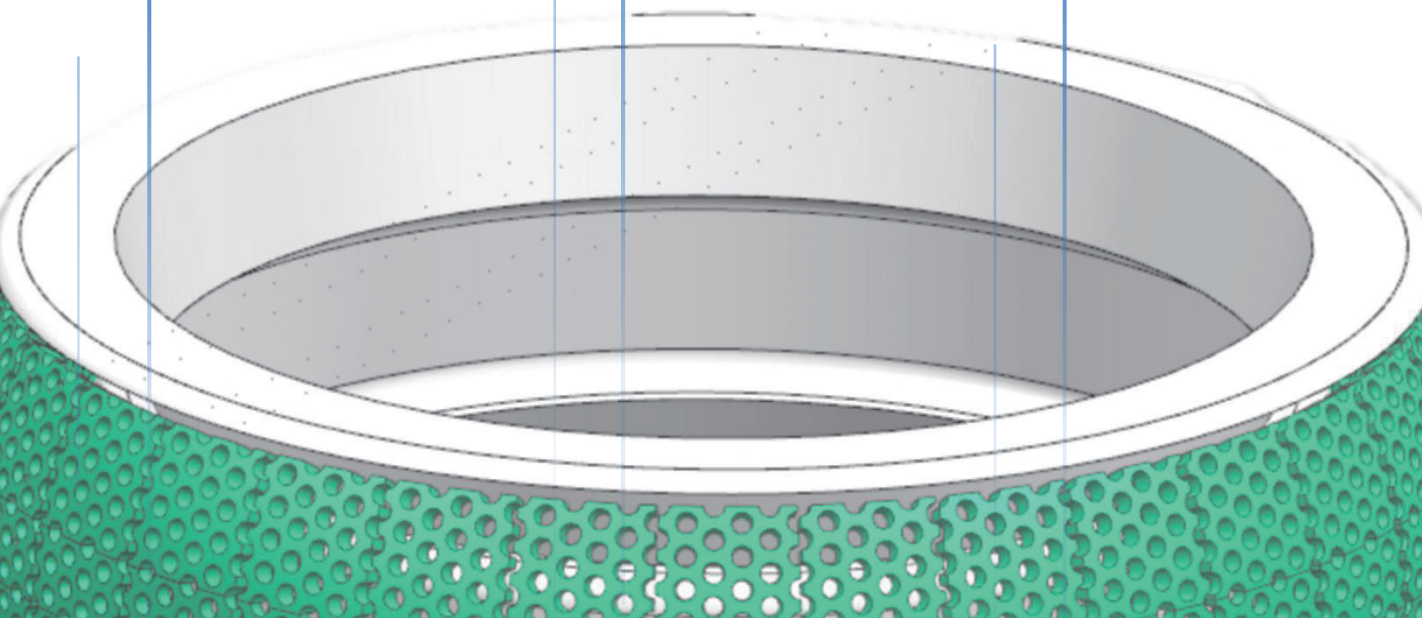
- Matrix: High Chrome Cast Iron
- Thickness of Embedded Ceramic: 40mm-60mm

## Advantages Over Traditional Grinding Roller

**Longer**
Service Life

**Higher**
Production Yield

**Lower**
Energy Consumption



# Longer Service Life

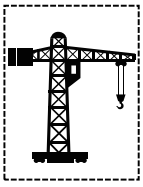
The service life of the grinding roller depends on the wear condition of its roller surface. The higher the hardness of its surface, the greater its wear performance, hence a longer service life. It all depends on what material to choose.

The material of traditional grinding roller is usually high chromium cast iron or hardfacing. Due to the characteristics of the material, the hardness is generally around HBW 650. Ceramic grinding rollers are embedded with high-hardness, industrial wear-resistant ceramics in the wear area of traditional high-chromium cast iron rollers. Its hardness can reach HV 2100, increasing the wear performance in the wear areas and significantly extending the service life of the grinding roller.

| Material | High Chrome | Hardfacing | Ceramic |
|---|---|---|---|
| Hardness | HBW 650 | HBW 650 | HV 2100 |

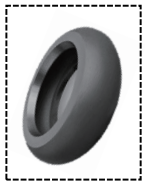
## Ceramic grinding roller helps reduce:

Downtime Cost


Disassembly Cost


Labor Cost

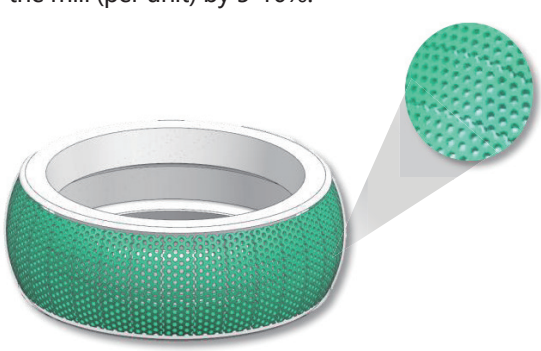

Consumable Cost

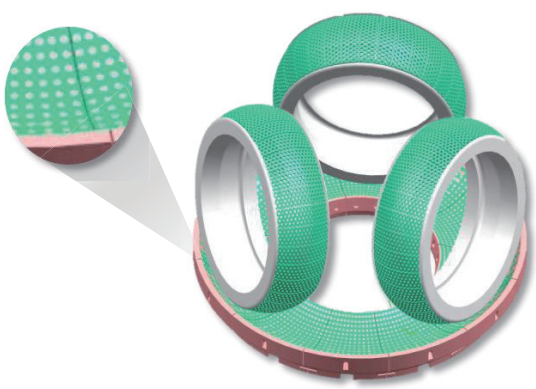

Spare Cost

# Higher Production Yield

The surface of traditional grinding roller is getting smoother after frequent grinding between the roller and the grinding material. Its friction coefficient, grabbing ability and its yield pervertical roller mill will then all be noticeably reduced.

See what ceramic grinding roller will bring to you. Specially designed honeycomb structure that significantly increases the bite force and grinding efficiency of the grinding material, increasing the yield of the mill (per unit) by 5-10%.

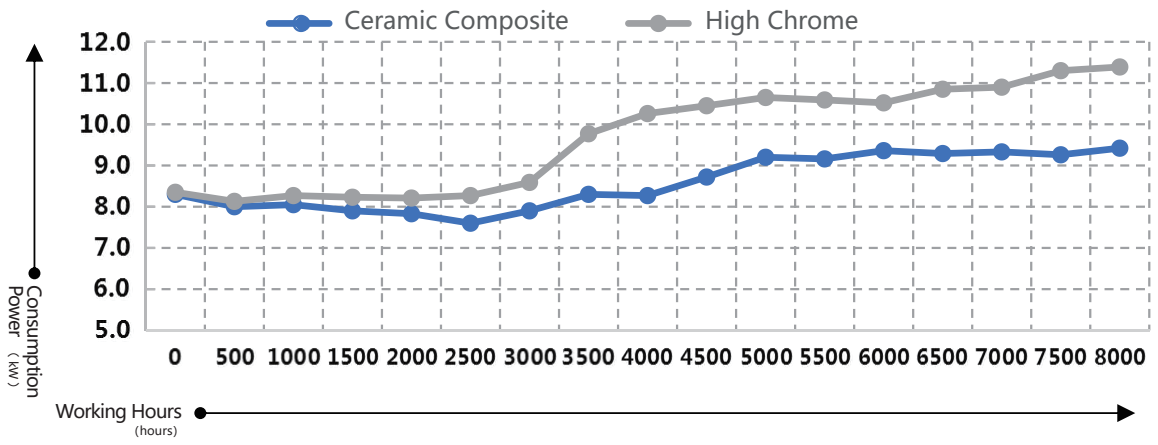

**Honeycomb Structure - Demo**


**Overall Structure - Demo**

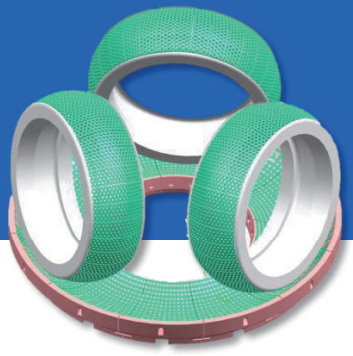
# Lower Energy Consumption in Operation

The specially designed honeycomb structure enables the grinding curve of the grinding roller and lining plate to maintain a sufficient grinding area, reducing the mills power consumption by about 7%.

**Comparison of Energy Consumption**
**Between Ceramic Grinding Rollers and Traditional Grinding Rollers**




## Ceramic Grinding Rollers VS Hardfacing Grinding Rollers



### Cost Comparison

1 set of  ≈ 

Ceramic Grinding Roller

Hardfacing Grinding Roller

| Hardfacing Cost | Maintenance Inspection Cost | Yield Increases by | Power Consumption Decreases By |
|---|---|---|---|
| 3X + | 3X + | 5% + | 7% |

# Case Study

中国建材 HRM

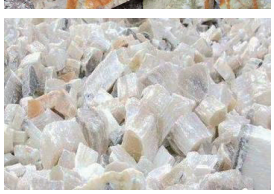
Customer Name：Hefei Zhongya Equipment Factory
Customer Tag：Vertical Mill State-Owned Equipment Factory
Production Materials：Grinding Coal
Production Challenge：Yield must be stable
Working Hours：Approx. 24,000 hours
**Service Life：3.3 Times Over Hardfacing Grinding Rollers**

JINCHUAN金川 金川集团股份有限公司 JINCHUAN GROUP CO., LTD.

Customer Name：Gansu Jinchuan Group
Customer Tag：Ranked No. 4 of nickel and cobalt in the world
Production Materials：Quartz Sand
Ore Hardness：Mohs Hardness 7.0
Grinding Roller Yield：12,572 Tons
**Service Life：3.3 Times Over Hardfacing Grinding Rollers**

赣锋锂业 GanfengLithium

Customer Name：Jiangxi Ganfeng Lithium Industry
Customer Tag：Ranked No.1 in the Lithium Industry in China
Production Materials：Lithium Ore
Ore Hardness：Mohs Hardness 6.5~8.0
Grinding Roller Yield：Approx. 81,360 tons
**Service Life：2.0-3.0 Times Over Hardfacing Grinding Rollers**



巨石集团有限公司 JUSHI GROUP CO., LTD.

Customer Name：China Jushi Group
Customer Tag：Ranked No.1 in the Fiberglass Industry in China
Production Materials：Pyrophyllite, White Foam Stone
Working Condition：Pressure 13-16Mpa
Grinding Roller Yield：45,317 tons
**Service Life：4.1 Times Over Hardfacing Grinding Rollers**

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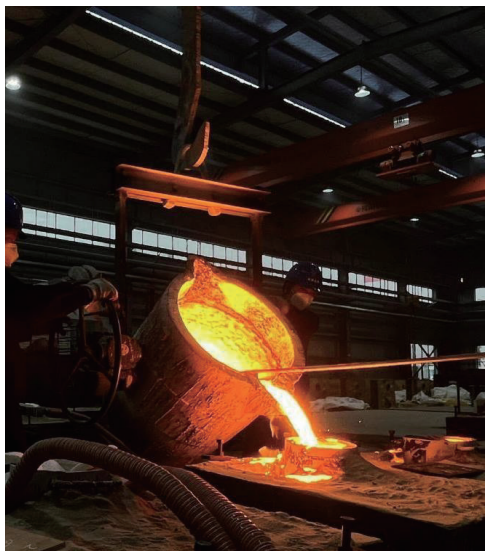
# Company Profile

Nanjing Qiming Machinery Co.;Ltd is an ISO 9001 certified foundry specialized in MMC (Metal Matrix Composite) wear resistant casting parts manufacture.

With 20+ years experience in the manufacture and research of wear resistant castings, Qiming Casting is proud to be a trusted supplier of wear parts for mining, cement, quarry, construction, recycling equipment worldwide.

Not only a foundry, Qiming Casting is also dedicated to providing innovative and longer-life wear parts and solutions to reduce downtime of equipment.



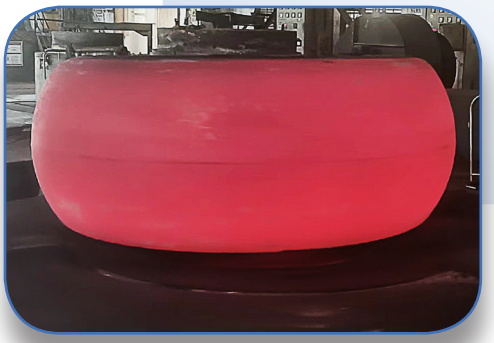
**13,000 m²**
Modern Foundry

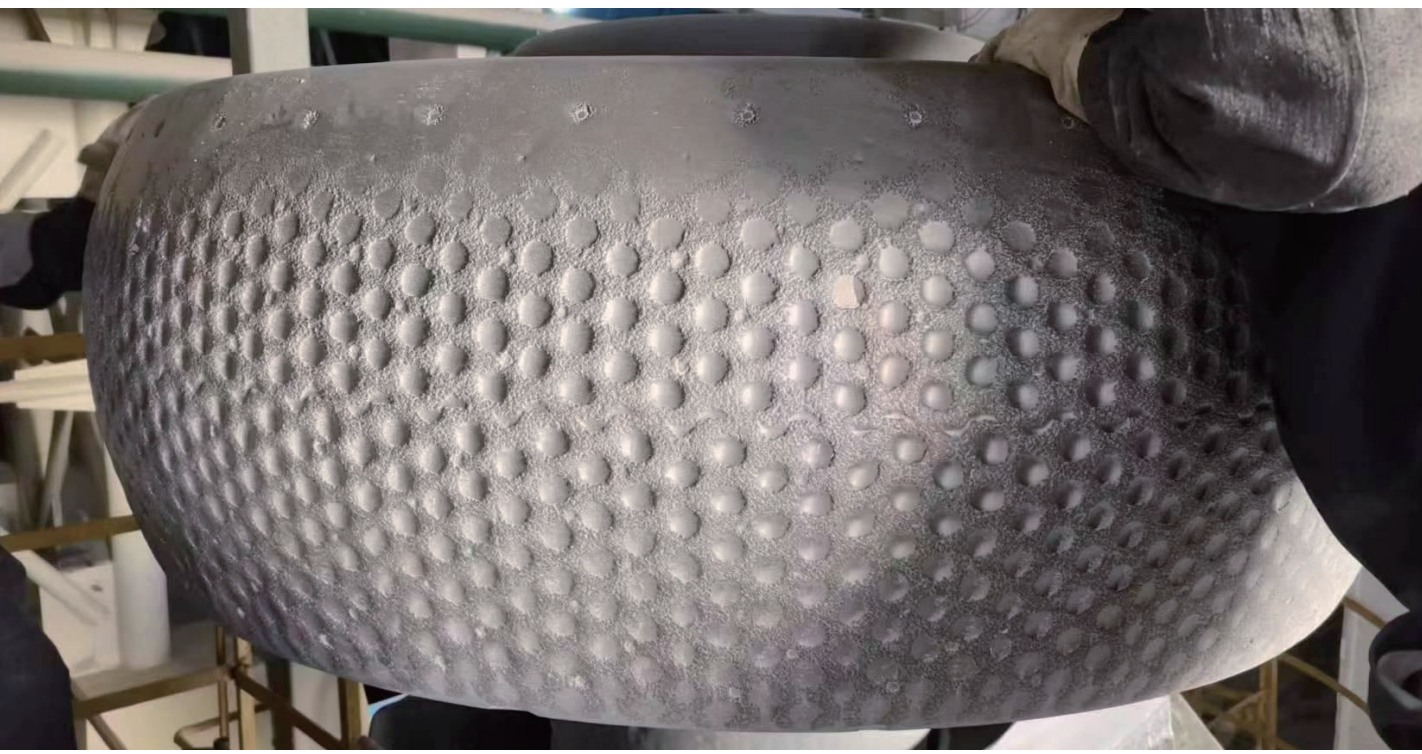
**8,000 Tons**
Annual Casting Capacity

**10+ Years**
Experience in Researching & Manufacturing of Matrix Ceramic Composite Technology

**20+ Years**
Leading Industrial Wear Solution Provider


Thermo
2019-





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