

SHANDONG TAIRAN IMPORT AND EXPORT CO.,LTD

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Pyrophyllite Silicon Carbide Carbon Brick



Pyrophyllite silicon carbide carbon brick is a newly developed high-grade refractory product in recent years. It is primarily used in molten iron ladles and torpedo car ironmaking equipment, replacing traditional high-alumina bricks and aluminum silicon carbide carbon bricks. This innovation has significantly improved operational performance. When applied in 150-ton molten iron ladles without triple desulfurization (de-S) treatment, the product demonstrated a service life of nearly 1,000 cycles over 13 months, with an average erosion rate of only 0.155–0.165 mm per time.

1.Main technical index of Pyrophyllite Silicon Carbide Carbon Brick

| Item | Unit | MTL-19 Bottom brick | STL51 Wall brick |
|------------------------------------|-------------------|---------------------|------------------|
| Al ₂ O ₃ | % | 32-35 | 50-55 |
| SiO ₂ | % | ≤50 | ≤18 |
| SIC | % | 5-7 | 8-10 |
| F.C | % | 12-15 | 14-16 |
| Density | g/cm ³ | 2.46-2.55 | 2.7-2.8 |
| Apparent porosity | % | 7-9 | 7-9 |
| C.C.S | Mpa | ≥40 | ≥40 |
| Room temperature flexural strength | Mpa | ≥8 | ≥8 |
| Permanent Line Change 1400℃*3h | % | ≤4.5 | ≤2.7 |

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2.Product description

Pyrophyllite silicon carbide carbon brick is a non fired refractory brick made mainly from andalusite, high-quality graphite of, SIC sand, antioxidants, and special anti-corrosion agents through strict production processes, with a heat treatment temperature of $200\text{ }^{\circ}\text{C}\pm 20$. The product has good resistance to slag erosion, erosion, and thermal shock. When applied to the impact area of the ladle, the average corrosion rate is only 0.155-0.165mm/time, the product is applied to iron ladles that without triple desulfurization (de-S) treatment, with nearly a thousand applications per time, lasting for more than 13 months. The product has been applied for more than 530 times in the molten iron ladle treated with triple desulfurization (de-S) treatment. Pyrophyllite aluminum silicon carbide carbon brick has good low thermal conductivity, which helps reduce heat loss, improve energy utilization efficiency, and lower the temperature of the iron ladle shell. Due to the product's good corrosion resistance and low permeability, it can reduce pollution to the iron and thus improve the quality of iron water.

Due to its excellent characteristics, the product has received high praise from domestic and foreign users and has achieved excellent performance in steel companies both domestically and internationally. Exported to clients such as Northern Steel Corporation in Russia, China Steel Corporation in Taiwan, Nippon Steel Corporation in Japan, as well as China's Shougang Corporation, Baosteel Corporation, Ansteel Corporation, Shandong Iron and Steel Corporation, and others.

3. Main features of the product

- 1> Excellent slag erosion resistance and erosion resistance, applied on iron ladle without triple desulfurization (de-S) treatment, with a corrosion rate of 0.155-0.165mm/time, achieving a usage effect of nearly a thousand times.
- 2> Excellent thermal shock stability performance, superior to traditional aluminum silicon carbide carbon bricks.
- 3> The lower permeability improves the quality of molten iron.
- 4> Good low thermal conductivity reduces the temperature of the ladle shell.

4. Main purpose

The product is mainly used in the bottom and wall parts of ironmaking equipment such as ladle and torpedo tank

5.Main Customer Performance Table

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| Customer | Application | Product |
|--|---------------------------------------|--|
| Northern Steel of Russia | 600T torpedo ladle 380T iron ladle | Aluminum silicon carbide carbon brick |
| Taiwan Zhonggang, Zhonglong Company | Iron ladle | Aluminum silicon carbide carbon brick |
| Vietnam Ha Tinh Steel | 320T Iron ladle torpedo ladle | Aluminum silicon carbide carbon brick |
| Hebei Iron and Steel Group Handan Company | Iron ladle, torpedo ladle | Aluminum silicon carbide carbon brick |
| Baosteel Group Anshan Steel Company | Iron ladle, torpedo ladle | Aluminum silicon carbide carbon brick |
| Nangang Group | Iron ladle, torpedo ladle | Aluminum silicon carbide carbon brick |
| Shagang Group Huaigang Company | Iron ladle, torpedo ladle | Aluminum silicon carbide carbon brick |
| Nippon Steel | metal mixer, iron ladle | Aluminum silicon carbide carbon brick |
| Japan's Sun Steel Company | iron ladle | Aluminum silicon carbide carbon brick |
| Anshan Iron and Steel Group | metal mixer, iron ladle | Aluminum silicon carbide carbon brick |
| Shandong Iron and Steel Group | metal mixer, iron ladle | Aluminum silicon carbide carbon brick |
| Nippon Steel Group | metal mixer, iron ladle | Aluminum silicon carbide carbon brick |

Do you want to find a professional supplier of Pyrophyllite Silicon Carbide Carbon Brick?

Do you want to find a stable and credible supplier?

Then please contact with us

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