Company mission

Providing high quality pipe fittings for global users.

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SUNNY STEEL ENTERPRISE LTD.

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Customer first, quality supremacy, integrity, perfection, unity, struggle.

Full range, every size

Professional Translation for Steel Casting & Wear-Resistant Products

SUNNY STEEL
Advanced Materials, Superior Durability

Core Strengths:

High-alloy wear-resistant cast steels (rare earth modified)

Bimetallic composite pipes and fittings

Ceramic-lined and ultra-high molecular weight polyethylene (UHMWPE) composite pipes

Slurry pumps, valves, and ash handling equipment

Heat-resistant furnace components and rollers

Our factory specializes in the research, development, design, and manufacturing of high - performance alloy castings and equipment. These products are engineered to resist wear, heat, and corrosion, catering to the power, metallurgy, mining, coal, and chemical industries.

Boasting over a decade of industry experience, we have emerged as a front - runner in the production of wear - resistant castings and associated equipment. We leverage advanced casting techniques and adhere to stringent quality control measures at every stage of production. This commitment ensures that our products not only meet but often exceed industry standards, delivering reliable and long - lasting solutions to our clients across diverse sectors.

Content

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Rare Earth Wear-Resistant Steel Series

Produced using advanced EPC (Expendable Pattern Casting) vacuum suction casting technology. This process eliminates common defects such as porosity, slag inclusions, and distortion. The alloy is based on FeCr, FeMn, FeMo, Ni, Re, and FeSi, with additions of ferrovanadium (FeV), ferroniobium (FeNb), and copper (Cu). This results in superior wear and corrosion resistance combined with high mechanical strength, impact toughness, and improved weldability. Ideal for coal handling, pulverizing, slag/ash disposal, and washery pipelines in power plants and metallurgical furnaces.

High Wear Resistance: The refined microstructure after adding FeV, FeNb, and Cu provides finer grains, higher strength, and enhanced plasticity, significantly improving abrasion resistance.

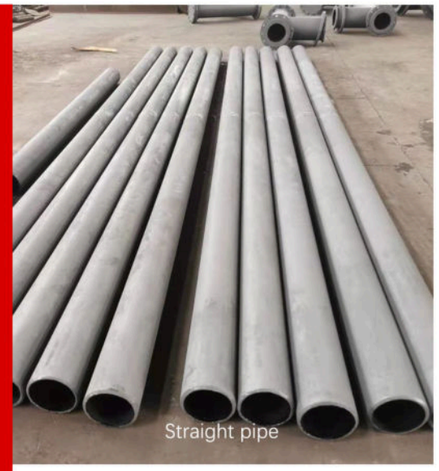
Excellent High-Temperature and Corrosion Resistance: Optimized Ni and Cr content ensures heat resistance; Cu and Cr enhance corrosion resistance. Suitable for harsh operating conditions.

Advanced Process & Stable Performance: High dimensional accuracy, uniform structure, and excellent performance for complex shapes, liners, and transition pieces.

Low Flow Resistance: Smooth inner surface after use reduces transport resistance and extends service life.

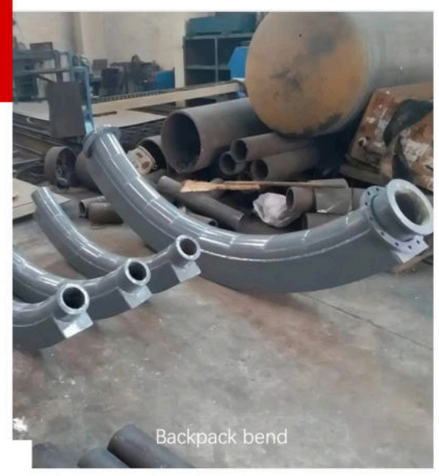
Easy Installation: Supports flanged, quick-connect, or welded installation. Heat treatment improves hardness while maintaining machinability and weldability.

Typical Applications:
Burner outer cylinders, conical hoppers, elbows (welded or flanged), coal powder mixers, inlet hoppers, Y-pipes, cones, grinding rollers, wear-resistant ash elbows, variable-diameter multi-pass pipes, and spiral pipes.

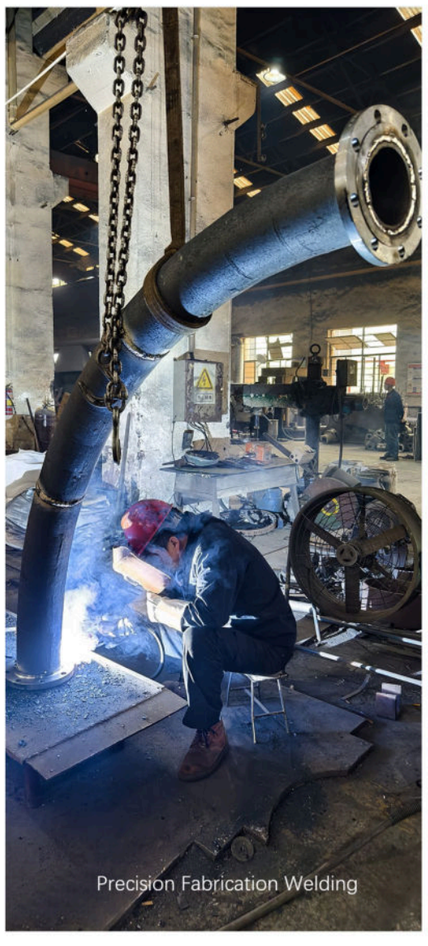

Straight pipe

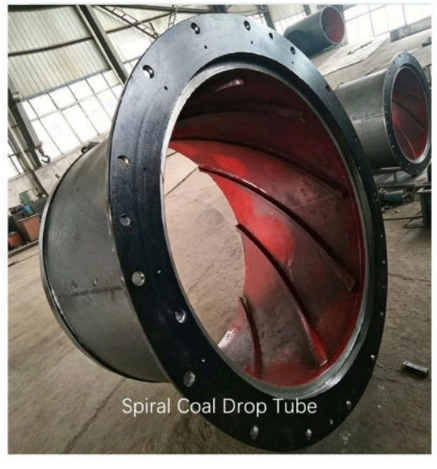

Tee

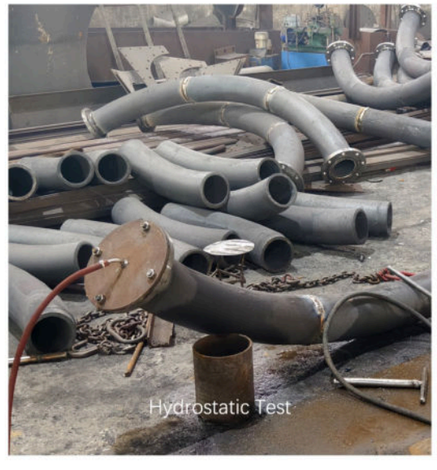

Elbow


Backpack bend


Spherical Tee


Precision Fabrication Welding


Spiral Coal Drop Tube


Hydrostatic Test

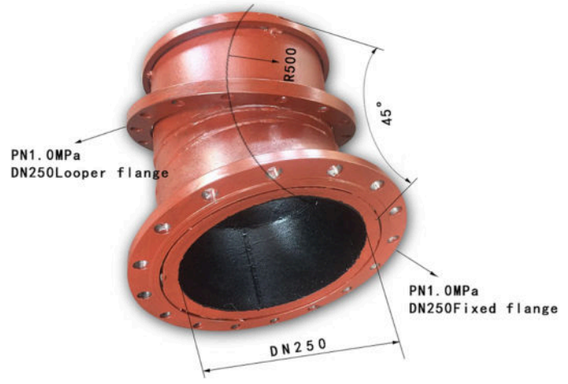
Bimetallic Composite Pipes

Steel-steel bimetallic composite pipes feature a high-chromium cast steel wear-resistant lining metallurgically bonded to a carbon steel outer shell. The lining offers 30+ times better wear and corrosion resistance than 16Mn seamless steel pipes, while maintaining high mechanical strength and impact resistance.

Key Features:
Superior wear and corrosion resistance from zirconium white cast iron or high-chromium cast steel.
Suitable for dry or corrosive slurry conditions.
Advanced lost-foam vacuum composite casting process enables full lining of bends and complex shapes.
Lower flow resistance compared to traditional lined pipes.
Easy to cut and weld.

Applications:
Pulverized coal conveying, dry ash systems, stone coal systems in power plants, and other powder/slurry transport systems.

Diagram of common pipe sizes



Remarks: This picture is the size picture of DN250 bimetal wear-resistant elbow, if you need other sizes, please communicate with customer service.

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Ni-hard

Ni-Hard is a family of white cast irons alloyed primarily with nickel (Ni) and chromium (Cr). It is specifically engineered for outstanding abrasion resistance in both wet and dry, low-impact, sliding abrasion environments

* Chemical composition ranges in weight %

Pipe Grade	Designation	C	Ni	Cr	Si	Mn	Mo	S	P
ASTM A532									
Ni-Hard 1	Class I, Type A	2.8–3.6	3.3–5.0	1.4–4.0	0.8	2.0	1.0	0.15	0.3
Ni-Hard 2	Class I, Type B	2.4–3.0	3.3–5.0	1.4–4.0	0.8	2.0	1.0	0.15	0.3
Ni-Hard 4	Class I, Type D	2.5–3.6	4.5–7.0	7.0–11.0	2.0	2.0	1.5	0.15	0.10
EN 12513									
Ni-Hard 1	EN-JN2039	3.0–3.5	3.0–5.5	1.5–3.0	0.8	0.8	–	0.10	0.10
Ni-Hard 2	EN-JN2029	2.5–3.0	3.0–5.5	1.5–3.0	0.8	0.8	–	0.10	0.10
Ni-Hard 4	EN-JN2049	2.5–3.5	4.5–6.5	8.0–10.0	1.5–2.5	0.3–0.8	–	0.08	0.08

Reducer Wear-resistant Flanged Bend

post-weld surface grinding + NDT ultrasonic flaw detection to eliminate inner welding defects.

Coke Bucket Wear Liner

High Manganese Alloy Cast Steel (ZGMn13 / Mn13)

Ni-Hard Cast Iron T-head Bolt

316L stainless steel liner fixing bolt,
coke pot liner fastener,
abrasion resistant anchor bolt

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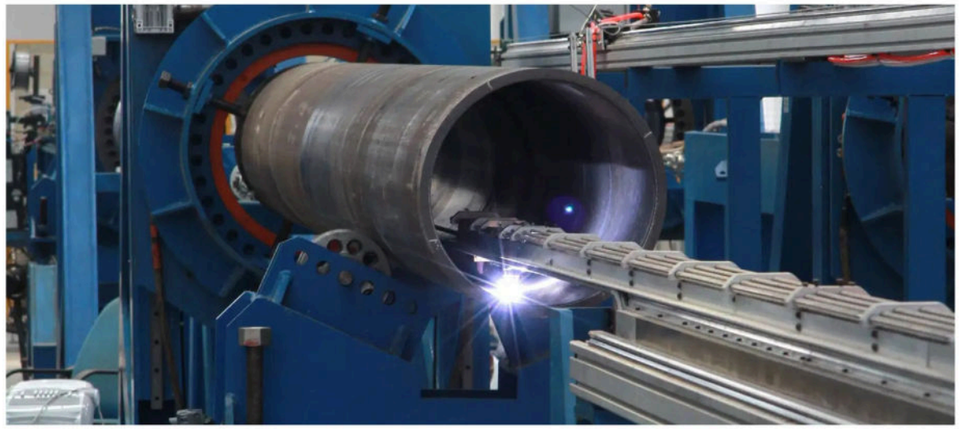
Hardfacing

Hardfacing (also known as hardface welding, overlay welding, or cladding) is a specialized welding process that deposits a layer of hard, wear-resistant alloy onto the surface of a base metal (substrate). The goal is to significantly improve the component's resistance to abrasion, erosion, impact, and mechanical wear, thereby extending its service life without replacing the entire part. The hardfacing layer is typically 1–10 mm thick and forms a strong metallurgical bond with the base material.

Hub Protection Liner

We supply customized hub protection wear liners with optional hardfacing service.



Hard Weld Lined Steel Pipe

Various bore diameter, wall thickness, inner hardfacing thickness and alloy grades can be custom fabricated strictly according to customers' technical drawings and on-site operating parameters.

Hardfaced Lined Reducing Tee

Mainly used for thermal power plant pulverized coal, ash slag conveying pipeline, mine mineral slurry & aggregate conveying piping system.

Hardfaced plate

Bolt-on Wear Liner

Different overall dimension, plate thickness, hole spacing and hardfacing requirement can be tailor-produced strictly as per customer's technical drawings and operating condition demands.

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Furnace Bottom Rollers / Hearth Rollers

Furnace Roll for Continuous Heat Treatment Line

Available dimension range: OD Φ60mm ~ Φ1600mm. Widely applied for continuous annealing production line with high reliability requirement, including large-diameter furnace rolls well received by clients. We also supply special rolls for temperature measuring & homogenizing use.

Caster Roll for Continuous Casting Machine

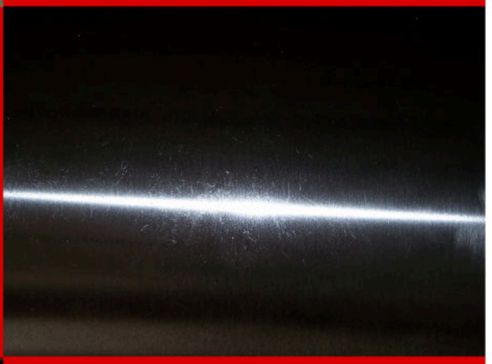
Material: 13%Cr martensitic steel, applicable working temp ≤600℃, featuring excellent impact resistance & wear resistance. Optimized structural design reduces routine maintenance frequency for high-speed continuous casting service.

Sink Roll for Hot-dip Galvanizing Line

Designed for approx.500℃ molten zinc bath environment, manufactured by alloy with outstanding resistance against high-temp zinc liquid corrosion. Auxiliary products: back-up rolls, bearing housings & related peripheral components.

Hardness:

Random hardness spot check on roll surface; extra hardness testing for rolls with alloy hardfacing overlay.



Surfacing:

Roll journal and barrel joint adopt certified full penetration professional welding; working surface optional high-alloy hardfacing overlay to upgrade service life.

Customization:

All diameters, lengths, material grades and surface hardfacing parameters can be tailor-made strictly as per customer's technical drawings & on-site operating parameters.

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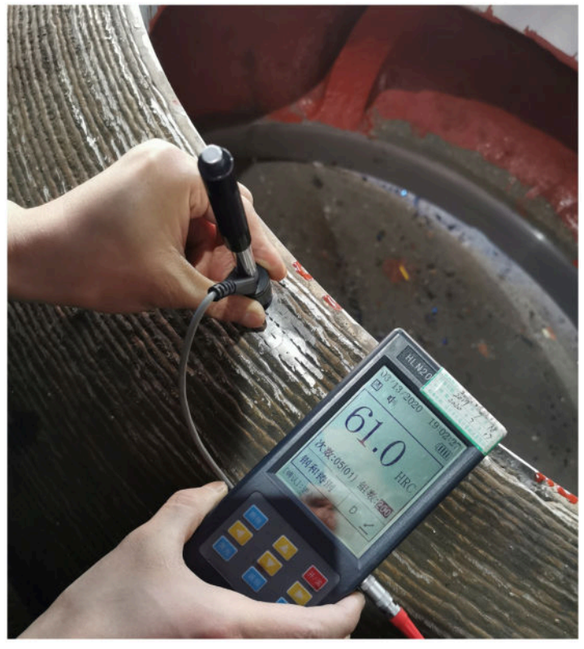
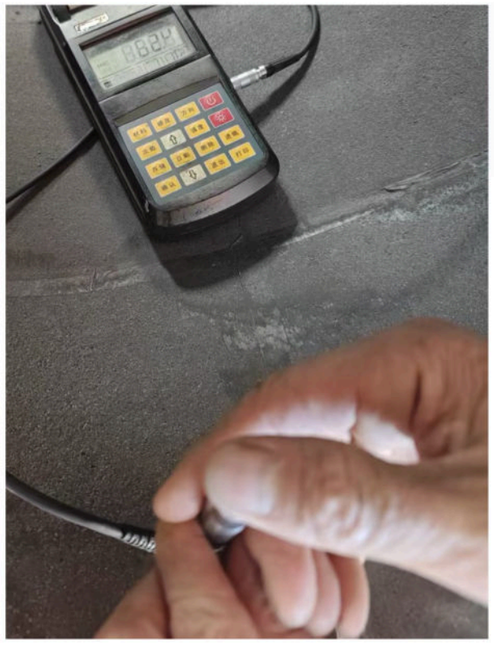
Special Inspection

All dimensions, base material grades and hardfacing alloy formulas can be tailor-produced strictly in accordance with clients' drawings and site working conditions.





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Customer special and Application

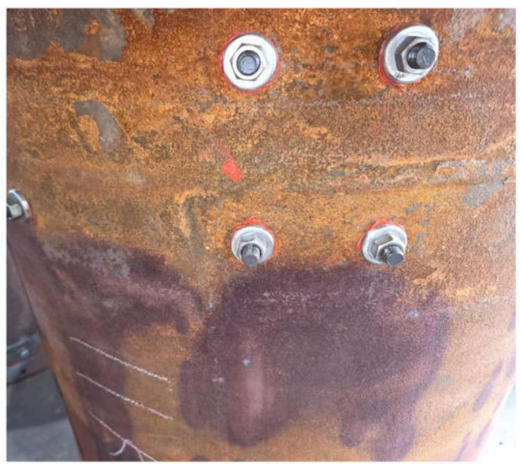
Products can be tailor-fabricated strictly in accordance with customers' technical drawings, customized to match specified working condition and practical application requirements.

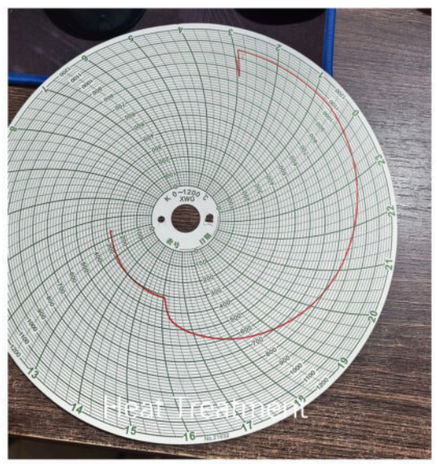

Bend


Radiant Tube


Slag Drop Chute


Micro-oil Ignition Burner




Heat Treatment