

**TO BE FIRST-CLASS MANUFACTURER OF CAST IRON
DRAINAGE PIPES IN THE WORLD**



Two-dimension Code

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SUNS

www.suns-china.com

SINCE
1994



Xuanshi Industrial Group Company

NO.1

Annual production and sales ranks No.1
for 17 years in a row in China



The designated supplier for the 2008 Beijing Olympic Games
80% landmark buildings around the country use "SUNS" brand products



The Writer of National Standard of Cast Iron Pipes



The National Technical Center for Building
Drainage Piping Systems

SUNS
兹氏铸业

CASTING HONESTY AND EFFORT

玄 (XUAN)

“玄” (XUAN) means a brilliant grey color in Chinese.

兹氏 (XUAN SHI)

Gaoping is called “Xuanshi” in Spring and Autumn period, and “Changping” in warring states period. The current name –“Gaoping” is given after the establishment of the People’s Republic of China.

Gaoping is famous for its abundant coal and iron ore resources. Since the coal produced in here is high in BTU and low in sulfur content, crucible iron making is invented in Spring and Autumn period. The pig iron produced in here has low cost but high quality, and is regarded as an excellent work of art in the world’s metallurgical history. The metalwork produced in Gaoping accounts for 20% of the nation’s during Ming Dynasty, Qing Dynasty and the Republic of China. “Jianning” nails and “Daiyang” sewing needles are renowned around the country and exported to Central Asia back then.

兹氏铸业 (XUAN SHI CASTING)

With the name of Xuanshi, we are dedicated to the inheritance of the glory history and refinement of the products.

SUNS

SUNS, English name of the Company, rhymes with “Xuan Shi” and implies shining brightly. SUNS Casting bases on Shanxi and gears products to demands of the world.



Crucible Iron Making



Crucible Iron Making



“Jianning” Nails



“Daiyang” Sewing Needles

Suns has been committed to research and development of cast iron drainage systems for 22 years

- 2015**

In 2015, National technical center for building drainage piping systems is established with the completion of the first specialized drainage test tower. SUNS starts a new journey of transforming towards a production-service-oriented enterprise.
- 2013**

In 2013, the fittings plant featuring state-of-the-art DISA molding technique (vertical) and having a capacity of making 40,000 tons of fittings per year (largest in China) is put into production.
- 2011**

In 2011, the pipe plant featuring self-developed multi-station centrifuge and having a capacity of producing 80,000 tons of pipes per year is put into production
- 2006**

In 2006, the designated supplier for 2008 Olympic Games, and successful bidder of Bird Nest and Water Cube
- 2002**

In 2002, the first foundry employs horizontal molding line to produce cast iron fittings.
- 1999**

In 1999, Production and sales ranks No.1 in China for the first time.
- 1997**

In 1997, the first order of 333.7 tons exporting to South Korea took place. Suns products start their world travel.
- 1996**

In 1996, the first manufacturer in China successfully introducing centrifugal casting technology to the production of cast iron drainage pipes
- 1994**

In 1994, SUNS was found on 7th Jan



In China, 80% of landmark buildings use “SUNS”brand cast iron pipes

Suns sells its products to more than 40 countries and regions, such as America, Russia, Japan, South Korea and Hong Kong etc.

Pipe production techniques

Dedicated to refinement of every piece of pipe

Obtained 46 patents on pipe production techniques

Inventory

Sufficient inventory of type-W, type-W1, type-A and type-B products to guarantee timely delivery

The national demonstration base for short casting process (blast furnace + electric stove)

The only enterprise in China employs molten iron from blast furnace to cast pipes directly. Comparing to other manufacturers, 147kg coking coal can be saved for the production of one-ton pipes. Lower cost, lower carbon emission, more efficient and environmental friendly

Thermal refining with electric stove

The temperature deviation during casting is controlled within $\pm 10^{\circ}\text{C}$, and various elements, such as C, Si, P, S, & Mn, are kept within $\pm 0.02\%$. These controls make sure tensile strength of pipes is not less than 200Mpa. (Chemical composition determines mechanical property)

Nine-station centrifugal machine (self-developed patented product)

Featuring pre-set operating system and precise control of centrifugal force, which makes sure every single pipe to be constant in internal texture and smooth in external appearance.

Automatic cutting machine (self-developed patented product)

Effectively eliminating defects such as burrs, ledges, and chill etc. Installation quality is ensured.

Multi-station internal wall polishing machine

Internal walls of all pipes are polished to eliminate surface slag and guarantee smooth internal walls and smooth drainage



Automatic Coating Line

Uniform thickness and good adhesiveness guarantee good anti-corrosion. And capable of providing products with asphalt, epoxy and electrostatic powder coatings

Water pressure test

100% water pressure tested. The slant-type water press guarantees adequate air discharge, and complete contact of internal wall and the water. The pressure is held at 0.35Mpa to make sure pipes 100% free of leak

Shot blasting

Thoroughly cleaning the coating on the surface of the pipes to expose the nature of the iron, increase adhesiveness of the paint, prevent penetration of corrosives, and make its service life longer

Fitting production techniques

Dedicated to refinement of every single fitting

Producing more than 2000 types of fittings

Inventory

Sufficient inventory of type-W, type-W1, type-A and type-B products to guarantee timely delivery

The national demonstration base for short casting process (blast furnace + electric stove)

The only foundry in China employs molten iron from blast furnace to cast pipes directly. Comparing to other manufacturers, 147kg coking coal can be saved for the production of one-ton pipes. Lower cost, lower carbon emission, more efficient and environmental friendly

Coating

Employing automatic coating technique, and capable of providing products with asphalt, epoxy and electrostatic powder coatings as per client's demand.

Thermal refining with electric stove

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Polishing

Internal and external walls are thoroughly polished with 3 different kinds of polishing tools. Bolt holes on A-type and B-type flanges are made precisely with the discrepancy of hole size no greater than 0.5mm.

Core-making with pre-coated sand

Having 100 pieces of professional core-making equipment with a daily output of 20,000 pieces, cores made have fine surface, smooth inner wall and no burrs, which guarantee smooth drainage.

Shot blasting

Shot blasting is employed to get rid of foreign materials on the surface of fittings, to expose the nature of the iron, improve adhesiveness of the coating, prevent corrosion, and prolong its service life.

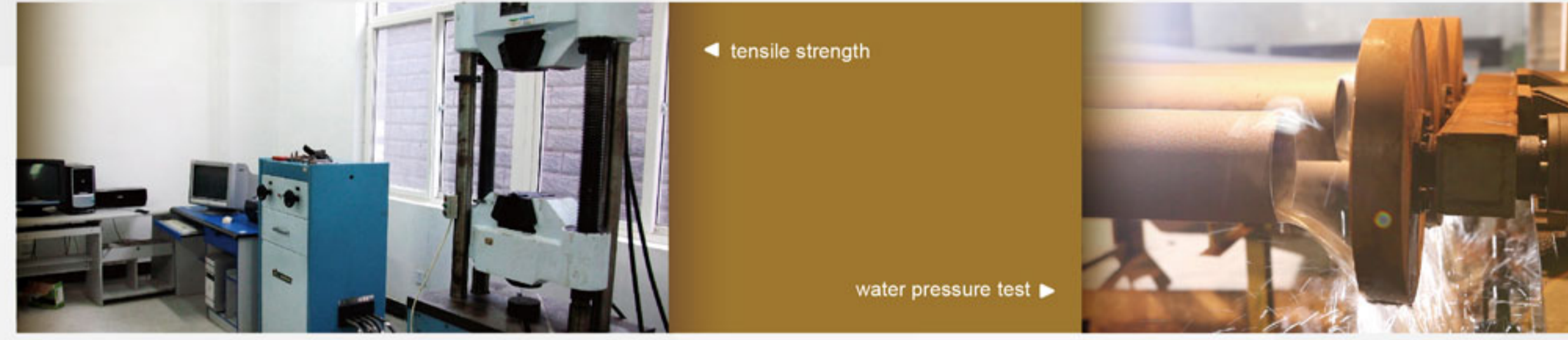
Mechanized vertical molding line

Advanced molding line with intelligent memory function promotes efficiency of the production. The mechanical moves of the casting process can be optimized automatically according to different fittings, which guarantee optimum casting quality. Molding, core setting, casting and shake-out are all integrated into one system, which enables us to produce 240 boxes of fittings per hour, and 30,000 pieces of DN38-DN300 fittings per day.



Quality products

SUNS produced about 31 million pipes by the end of 2015, and zero leakage reported.



tensile strength

water pressure test



spectrum analysis

dimension detection



Cold and hot water circulation

Paint anti-corrosion test

more tests

Certificates

TUV ISO 9001, BS EN877, CE



Testing standards:

Each pipe and fitting goes through 49 tests such as chemical composition, mechanical property, dimension, appearance, packing etc

Quality inspection system:

Complete inspections, such as self inspection, mutual inspection, and inspection by dedicated person etc. guarantee products to be absolutely qualified

Testing equipment:

Professional physical and chemical analysis room equipped with advanced testing equipment such as German direct reading spectrometer, universal testing machine, metallographic microscope, cold and hot water circulation testing machine, and tilt-type hydraulic press etc.

Pipes and fittings National standard and international standards

Suns can make all of them



4 SERIES



Internationally Accredited Production Standards



Test Tower at SUNS

The national technical center for building drainage piping systems



Group photo of establishment of national technical center for building drainage piping systems



Central control room of technical center



Anti-shock experiment room

Sharing platform

Units setting up research bases at SUNS



Fujian Architectural Design & Research Institute



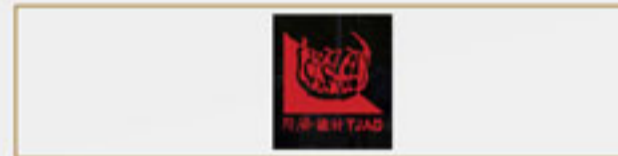
School of Civil Engineering, Hu'nan University



School of Civil Engineering, Fuzhou University



China Architectural (Northwest) Design & Research Institute Co., Ltd.



Architectural Design and Research Institute of Tongji University (Group) Co., Ltd.



School of Environmental Science and Engineering, Tongji University

Entitled to 50 patented products



The national technical center for building drainage piping systems is affiliated to Water Supply and Drainage Research Association of China Architectural Society, and is the first experimental research institute established jointly by industry, university and research institute. It locates in Shanxi Xuanshi Industrial Group Company and is composed of 51 famous experts and scholars and key producers of building drainage pipes.



The laboratory is mainly responsible for testing various drainage systems, providing experimental data for the development of national standards and criteria, providing equal-proportion validation for special engineering projects of Party A, providing an experimental platform for products development of the Company, and ensuring each product entering market is safe and each drainage design is optimum.

Dedicated to be a qualified “Drainage Expert”

SUNS not only provides quality products, but also offers integrated solutions to drainage systems.

Suns provides the optimum configuration plans featuring stack ventilation, H pipes, special single stack, same floor drainage and roof rainwater drainage.
Single piping program employing the super cyclone developed by SUNS has a maximal drainage capacity of 12L/ sec.



Type-B, T cyclone

Type-B, T Wye

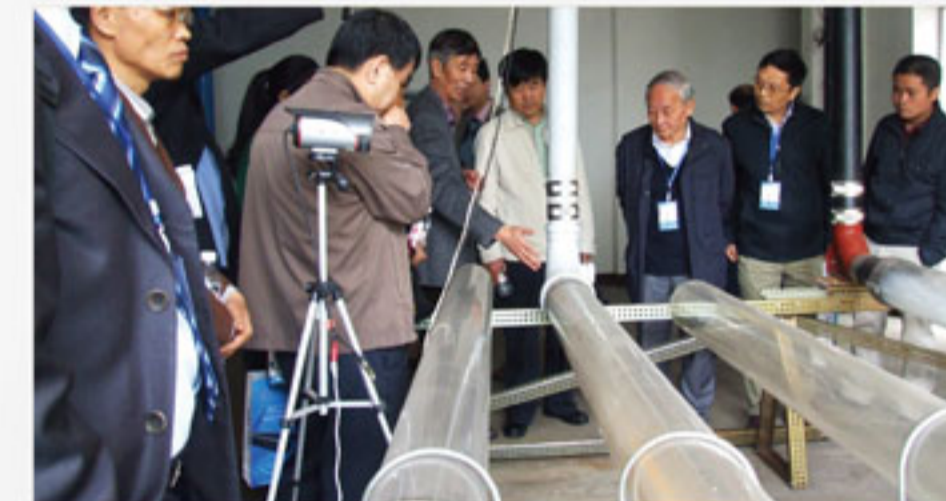
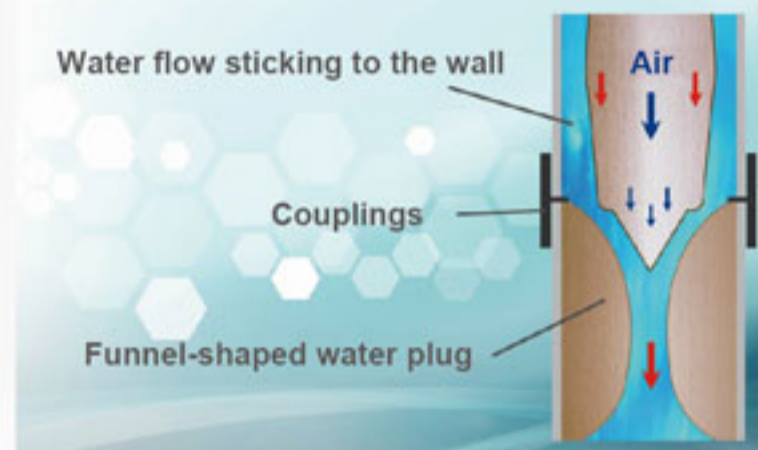
Type-W, large sweep reducing elbow

Best product design ensures smooth drainage.

Using 3D technology to achieve a streamlined structural design of the fitting and a perfect flow pattern, which ensures the best drainage performance

Solution to the elimination of residential return odor

Funnel-shaped water plug theory developed basing on tests carried out at testing tower by utilizing it to optimize product structures and system designing enables us to eliminate rest room' s return odor

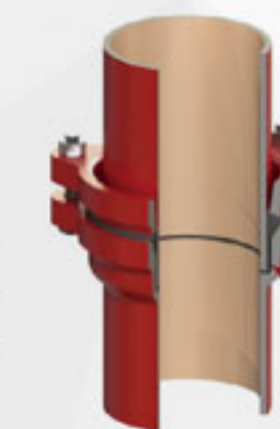


Providing verification tests for standard-setting and special engineering design

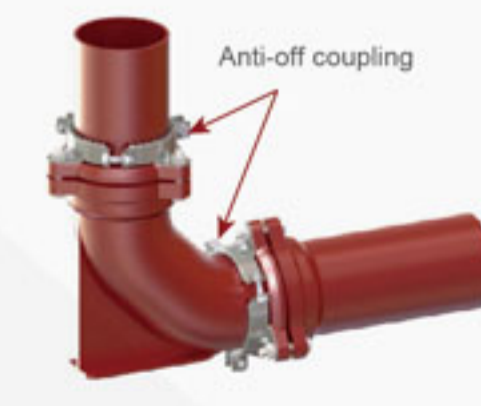
Suns' testing tower provides a large amount of test data for establishment of the state and industry standards, and provides validation tests for special engineering design.

Providing safe, reliable, convenient, and easy-to-maintain pipeline installation program

Technologies and products of the Company, such as patented easy-to-maintain installation, pipeline stretching compensation, anti-off coupling, BIM simulation installation etc. ensure safety, reliability and convenience.



Compensation gasket



Double 1/8 bends on bottom – anti-off coupling



Ductile iron anti-off coupling

To make city life better

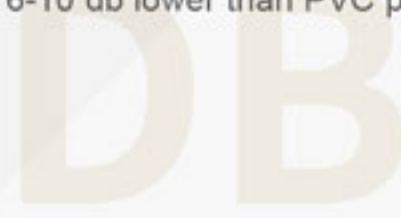
To make building's drainage system smoother



Cast iron drainage systems, your first choice for high-end buildings and quality life

Low noise

The lamellar graphite structures in cast iron pipes are good at vibration absorption and noise suppression. The noise created is 6-10 db lower than PVC pipe and 15 db lower than ABS pipe.



Fire-proof

Cast iron pipe is non-combustible and heat-resistant, which makes it the optimum drainage pipes for safe and fire-resistant buildings. When fire hazard happens, it can stop the fire from spreading and prevent toxic smoke from being made.

High strength, long service life, heat resistant, flexible and shock-resistant, smooth drainage and recyclable...

Just one call, we'll do the rest



Pre-sales

we' ll provide optimum solutions to designing and installation of draining systems with the substantial experimental data from the test tower.



01



02



Order placed

we' ll supervise the whole process and make sure accurate and on-time delivery.



03



After-sales

Our service suppliers will provide installation guidance, and get to the field in 24 hours to help resolving problems.



04



Commitment

we will take full responsibility for client' s loss resulting from poor quality of the products.