JIGANG

济 钢 集 团

山东球墨铸铁管有限公司

DUCTILE IRON PIPES

JINAN IRON & STEEL GROUP CORPORATION

SHANDONG DUCTILE IRON PIPES CO.,LTD.

精 品 强 国 · 满 意 世 界

High quality products to enhance the nation and satisfy the world

SHANDONG DUCTILE IRON PIPES CO.

经营追求—精品强国，满意世

Mangement aim-High quality products to enhance the nati

企业核心价值观—可尊、可信

Key Values-Respectable Creditable Create and Win Toget

LTD

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可尊　　可信　　共创　　共赢

SHANDONG DUCTILE IRON PIPES CO.,LTD

山东球墨铸铁管有限公司简介

济南钢铁集团总公司是中国十大钢铁企业之一，集工业、贸易、科研、开发、服务于一体，是跨行业、跨国家、一业为主，多种经营的特大型钢铁联合企业。山东球墨铸铁管有限公司是济南钢铁集团总公司最大的子公司，山东省的第一炉铁水就诞生在这里。

公司于1989年引进世界上先进的水冷金属型离心铸管工艺和设备，开始生产离心球墨铸铁管，是国内最早按ISO2531标准生产球铁管的厂家。公司集炼铁、铸管于一身，经不断发展和积累，总资产已达10亿元。拥有烧结机、球团竖炉、高炉、铸铁机等炼铁设备，可年产生铁150万吨；拥有混铁炉、电炉、离心铸管机等铸管设备，可年产DN80-DN800球铁管20万吨。

公司视产品质量为生命，始终坚持和贯彻"质量是企业生存之本，为用户提供满意的产品和服务是我们永恒的追求"的质量方针。生铁产品荣获国家"银牌"奖和"全国用户满意产品"称号；2000年离心球墨铸铁管被评为国家"冶金产品实物质量金杯奖"，并在国家技术监督局组织的同行业产品用户调查中，荣获铸管行业"第一品牌"称号。公司于1999年通过质量体系认证，还通过了瑞士SGS ISO9001质量管理体系认证、瑞士SGS产品质量认证、ISO14001:2002环境管理体系、OSHMS职业安全健康管理体系认证，形成了完善的管理体系。公司以规范的管理、优异的产品质量和服务不断赢得国内外顾客的信赖。铸管产品出口东南亚、中东、非洲、欧洲等国家和地区。

山东省省级"清洁文明工厂"蜓山东球墨铸铁管有限公司地处风景秀丽的泉城济南，距京福、济青高速公路8公里，距济南国际机场15公里，距青岛港360公里，胶济铁路专用线直达厂内，地理位置优越、交通便利。

公司全体员工热忱欢迎各界朋友光临，并时刻为您事业的成功竭诚服务！

Respectable Creditable Create and Win together

Brief introduction to the company

JISG is the among the first ten Iron & Steel enterprises in China. JISG is a extra large steel complex with business involving in industry, trade, scientific research , development and service in different parts of the country and different countries of the world. Shandong Ductile Iron Pipes Co., Ltd is the largest subsidiary company of Jinan Iron & Steel Group Corporation (JISG) in Jinan. The first heat of metal of Shandong Province was produced here.

The company imported the advance Water-cooled Centrifugal casting process and equipment in 1989 and began to produce ductile iron pipes in 1990. It is the first one that produce centrifugal casting ductile iron pipes according to ISO2531(GB13295) in China.

Through constant development and accumulation , the company fix assets has reached 1 billion yuan .

The company has sinter machines, pilliet furnaces, blast furnaces that can make 1500 thousand tons of foundry pig iron and pig iron for steelmaking per year. There are mixer, induction furnaces, centrifugal casting machines, annealing furnace, finishing fecilitis including zinc coating machines, hydrolic testing machines, cement lining machines, inner grinding machines and bitumen spraying machines . The annual capicity of ductile iron pipes is 200 thousand tons of DN80-800mm .The pipes have been served in most domestic municipal water supply projects , and they also have been exported to many Asian countries and African countries;

The company regards the product quality as life, insisting on the policy as The quality is the basis of survival, supplying satisfied products and services for the customers is our forever goal.

“Province class clean factory” Shandong Ductile Iron Pipes Co., Ltd is located in the east part of the beautiful Spring City Jinan, China. It has the preponderant location and traffic conditions, only 8 km to Jiqing highway , 15 km to the Jinan International Airport and 360 km to Qingdao port.

The company staff sincerely welcome your coming and visiting and always ready to supply the high quality products and services for you with the enterprise spirit “Start everyday from new hanker.”

JIGANG PIPE
OUTSTANDING
QUALITY

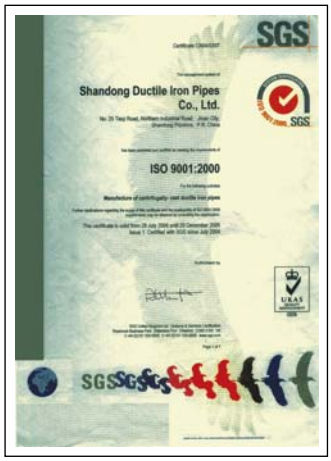
◆济钢铸管　品质卓越◆

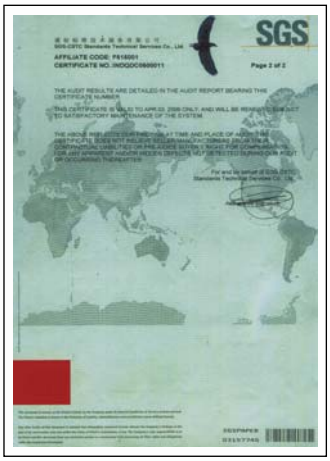
JINAN IRON & STEEL GROUP CORPORATION
SHANDONG DUCTILE IRON PIPES CO.,LTD.
济南钢铁集团·山东球墨铸铁管有限公司

DUCTILE IRON PIPES

认证及荣誉证书

Certificates of Attestation & Honour >>> >>>

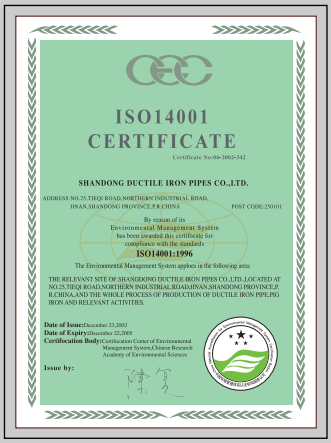




SGS产品认证证书
SGS Production Certificates

ISO9001 质量管理 体系证书
ISO9001 Quality System Certificates

职业安全健康管理体系认证证书
Occuppational Safety & Health Management System (OSHMS)Certificate



ISO14001 环境管理体系证书

ISO14001 Environmental Management System Certificate

ISO9001 质量管理体系证书

ISO9001 Quality Management System Certificate

守合同重信用证书

Certificate of Credit

免检企业证书

Free of Inspection Enterprise

饮用水卫生许可证书

Licence of Healthy Potable Water

质量检验证书

Quality Examination Certificate

冶金产品实物质量金杯奖

Golden Cup of Actual Quality of Metallurgical Products

JIGANG PIPE
OUTSTANDING
QUALITY

◆济钢铸管　品质卓越◆

生产工艺流程

PRODUCTION PROCESS >>> >>> >>>

球团竖炉 Pellet shaft furnace

工频炉 Induction furnace

高炉冶炼 Blast furnace

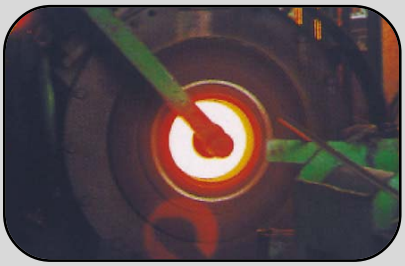
铸铁机 Pig machine

烧结机 Sinter machine

球化 Spheroidising

水泥内衬修磨 Grinding in lining

喷漆 Paint spray



浇注 Casting

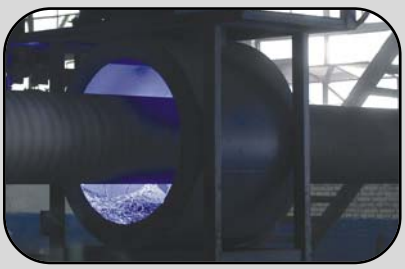
水泥养生 Cement preservation

标志插口线 Marking

退火 Annealing

内衬水泥 Cement lining

入库 Put in storage



喷锌 Zinc coating

水压实验 Hydraulic test

发运 Delivery

JIGANG PIPE
OUTSTANDING
QUALITY

◆济钢铸管　品质卓越◆

炼铁系统
主要生产设备

Main equipment of iron making

我公司主要生产铸14#—铸34#六种规格的铸造生铁，炼04#、08#、10#三种规格的炼钢生铁，Q10、Q12、Q16、三种规格的球墨铸铁，年产量150万吨，产品技术标准分别采用GB718-82、GB/T717-98、GB1412-85,其中铸造生铁荣获国家“银牌”奖和“全国用户满意产品”称号。

The company`s production are six sizes of cast iron 14#-34#,04#、08#、10# pig iron for steel-making and Q10、Q12、Q16,their annual production is over 500000 tonnes.The technical standard is GB718-82、GB/T717-98、GB1412-85，among them the cast iron won the SILVER MEDAL of the country and customer`s satisfied product of CHINA.

铸铁机 Pig machine

高炉 Blast Furnace

高炉 Blast Furnace

烧结机 Sinter Machine

"山东第一炉铁"

—1958 年用第一炉铁铸成的山东地图

The map of shandong province casted by the first heat of metal in 1958.

铸管系统
主要生产设备

Main equipment of pipe making

JIGANG PIPE
OUTSTANDING
QUALITY

◆济钢铸管　品质卓越◆

电炉
Induction furnace

离心铸管机
Centrifugal casting machine

退火炉

Annealing Furnace

离心球墨铸铁管采用低硫、低磷、荣获国家银牌奖、国际博览会金奖的优质高炉铁水，经高炉—电炉双联工艺进行调质、升温、球化处理，使用引进直读光谱仪对成分、球化随时检验，确保质量。

Centrifugal ductile iron pipes quality can be assured by adopting the high quality and low sulfur & phosphor hot metal from blast furnace,adjusting quality rising temperature and spheroidising by Blast furnace-Induction furnace duplex process and inspecting the spheroidized hot metal at any time by the spectrometer.

水压实验机

Hydraulic testing machine

防腐喷涂机

Anticorrosive spray machine

JIGANG PIPE
OUTSTANDING
QUALITY

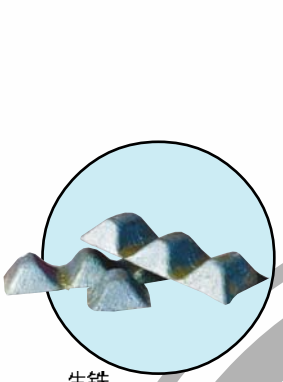
◆济钢铸管　品质卓越◆

JINAN IRON & STEEL GROUP CORPORATION
SHANDONG DUCTILE IRON PIPES CO.,LTD.
济南钢铁集团·山东球墨铸铁管有限公司

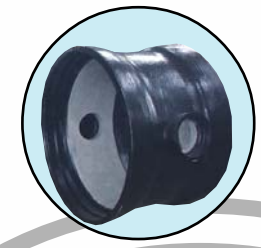
DUCTILE IRON PIPES

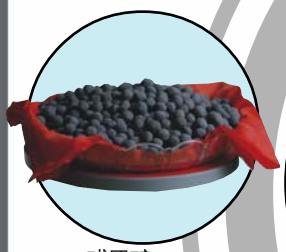
主要产品

MAIN PRODUCTION >>> >>> >>>



生铁
Pig iron

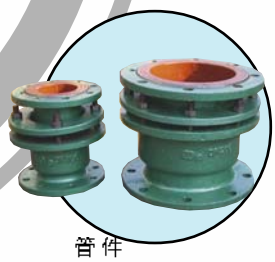




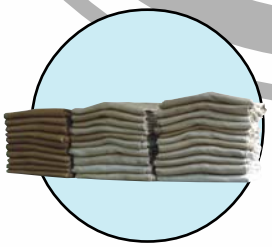
球团矿
Pellet

离心球墨铸铁管
D.I pipe

水 渣
Slag



管 件
Pipe fitting



岩棉保温材料
Slag wool thermal
insulation material

油漆涂料
Painting & Coating

球铁管的耐腐蚀性

Corrosion Protection >>> >>>

1.1 球墨铸铁管的耐腐蚀性 The corrosion protection property

铸铁管具有良好的耐腐蚀性，世界上已埋设300年以上的铸铁管道至今仍在使用，埋设100年以上的铸铁管现今仍在使用的更是不胜枚举。关于使用球墨铸铁管，虽然只有30多年的历史，但其耐腐蚀性和铸铁管同样良好（见试验结果：表1-1；1-2）。

The cast iron has perfect anti-corrosion property, according to the record, There were cast iron pipelines layed over 300 years ago still in use , and countless cases show that cast iron pipes have more than 100 years of service life. As regard to the using of ductile iron pipes, the history is over 30 years. But ductile cast iron is nearly identical to gray cast iron in chemical composition. It also contains far more silicon, carbon and other elements than steel. The ß resistance of ductile cast iron to corrosion is also similar to that of gray cast iron. This has been demonstrated in use and proved empirically as indicated in the following tables(table 1-1;1-2).

1.2 自来水水流腐蚀试验结果 Testing result of corrosion resistance in potable water(table 1-1)

实验用管 Pipe for test	腐蚀量 Volume Corroded (g/cm²)	
	45 天后腐蚀 After Corrosion for 45 days	90天后腐蚀 After Corrosion for 90 days
球铁管 Ductile iron pipe	0.0060	0.0090
铸铁管 Gray cast iron pipe	0.0060	0.0103
无缝钢管 Seamless steel pipe	0.0170	0.0273
焊接钢管 Welded steel pipe	0.0294	0.0396

1.3 海水中浸入试验结果 Corrosion resistance to sea water(table 1-2)

实验用管子 Pipe for test	不同浸入时间腐蚀量 Corrosion volume in different period					
	Mg/dm2/day			Mm/year		
浸入时间 Submerging period	90 days	180 days	360 days	90 days	180 days	360 days
球铁管 Ductile iron pipe	24.0	16.1	13.2	0.122	0.081	0.066
铸铁管 Gray cast iron pipe	24.9	16.4	14.5	0.127	0.083	0.073
钢管 Steel pipe	30.2	20.7	27.3	0.140	0.097	0.130

1.4 管道的耐腐蚀性 Corrosion protection of pipeline

用于输送自来水和煤气的球铁管管道，埋设在土壤里，最先就受到周围土壤的化学和物理性能等极大的影响，这是无须赘述的事实。但是就管道方面的条件来说，当管子排成长距离的管道形成一条连续的通电实体时，则是造成管道的腐蚀重大因素，换句话说，土壤的腐蚀按照埋设管道的不同，不会显示同样的结构特性，基于这种差异，形成浓氧差电池，浓差电池等局部电池的可能性就强，因此铺设一条贯穿在这样土壤的通电实体时，就会产生长线电流，而该电流的阳极部分将会形成非常激烈的腐蚀。采用焊接接口的钢管管道就是很好的例证。但是球铁管管道其接口是采用橡胶圈机械接口或“T”型接口，具有绝缘性能，因此，在整条管道中每4一米就有一个绝缘接口，这样整条管道就不可能成为通电实体，也就不易受到强大电流的影响。

It is true that the underground ductile iron pipeline transferring potable water and gas will be greatly influenced by the chemical and physical property of the soil directly .But as to the condition of the pipeline , The most important factor that result to corrosion is when pipes are jointed to be a long and continuous electrify entity. In other words, the soil corrosion will show different features on the different pipelines. Based on this difference, it forms concentration cell. Partial cell possibility of the concentration cell will be very strong. If laying a electrify entity in the soil will bring long line of electric current and then the current anode will form very aboil corrosion. The welded steel pipeline is an abvious example. Ductile iron pipe, owning to it's mechanical or T type joint and sealed by insulating rubber gasket , there is an insulation joint every 4一meters, then the whole pipeline will not be influenced by power electric current.

1.5 球墨铸铁管的耐电蚀性 Resistance to Corrosion Caused by Electric current

一般埋设于地下的金属导体都能测定出一定容量的电流，由这种电流而引起的金属体腐蚀现象称为电蚀。球铁管由于电阻较大，故不易产生电腐蚀。 Since ductile iron has relatively high electric resistance, it is resistance to corrosion caused by electric current.

球墨铸铁和钢的电阻值 Electric resistance of ductile iron and steel

材料 Material	电阻值 resistance volume μΩ/cm³
球铁 Ductile cast iron	50一70
钢 Steel	10一20

机械性能

Mechanical Properties >>> >>>

金相试验

Metallographic test

光谱分析

Spectrum analysis

机械性能

Mechanical Properties

压扁试验

Ring test

球墨铸铁管及管件的力学性能要求

Mechanical Properties of ductile iron pipes and fittings

标准 Standard	产品 Product	公称直径 Nominal Diameter DN(mm)	抗拉强度 Tensilestrength N/mm²	屈服强度 Yieldstrenght N/mm²	延伸率 Elongation %	硬度 Hardness HB
ISO2531	球墨铸铁管 Ductile iron pipes	DN100~1000mm	≥ 420	≥ 300	10	≤ 230
		DN100~2600mm			7	
	球墨铸铁管件 Ductile iron fittings	DN80~2600mm	≥ 420	≥ 300	5	≤ 250

水压试验标准(K9 级 ISO2531 标准)

Pressure gauge for hydrostatic testing standard (Class K9 Standard ISO2531)

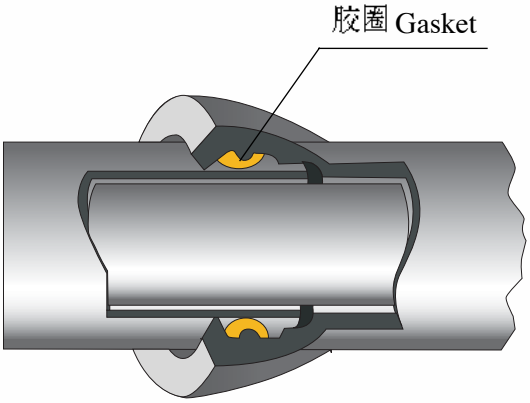
产品 Product	公称直径 Nominal Diameter DN(mm)	水压试验压力(巴) Test pressure(bar)	保压时间(秒) Time of Keeping(second)
球墨铸铁管 Ductile iron pipes	100 ~ 300	50	≥ 10
	350 ~ 600	40	
	700 ~ 1000	32	
	1100 ~ 2000	25	
	2200 ~ 2600	18	
球墨铸铁管件 Ductile iron fittings	80 ~ 300	25	≥ 10
	350 ~ 600	16	
	700 ~ 2600	10	

内　防　护	外　防　护
管子、管件：水泥砂浆内衬 执行 ISO4179 标准。	管子、管件：喷锌 执行 ISO8179 标准。
Internal Protection	**External Protection**
Pipes & Fittings:Metallic zinc coating complying with the standard ISO4179.	Pipes & Fittings:Metallic zinc coating complying with the standard ISO8179.

水泥砂浆内衬厚度

Thickness of the inside cement Lining

公称直径分类 Category	公称直径 (DN) Nominal Diameter	DE	衬层厚度 (Lining Thickness)			单位长度公称重量(近似值)公斤 Unit Length Nom.Weight (equiv.)Kg
			公衬厚度 Nom. Thickness	最小平均值 Min.Ave.Va	一个点最小值 Local Min.Va	
I	80	98	3	2.5	1.5	1.7
	100	118				2.1
	125	144				2.7
	150	170				3.2
	200	222				4.2
	250	274				5.2
	300	326				6.3
II	350	378	5	4.5	2.5	12.3
	400	329				14
	450	480				16.2
	500	532				17.5
	600	635				20.9
III	700	738	6	5.5	3.0	29.8
	800	842				33.4



T 型滑入式

Push-on joint(T-type)

T 型可允许的偏转角度

(DN80~800mm 管长 6m)

Permission Deflection Angles

公称直径 mm Nominal Diameter DN(mm)	安装时允许的偏转角度 Allowable Angles of Deflection at Installation Work
80	5°00′
100	5°00′
125	5°00′
150	5°00′
200	4°00′
250	4°00′
300	4°00′
350	3°00′
400	3°00′
450	3°00′
500	3°00′
600	3°00′
700	2°00′
800	2°00′

T 型接口离心球墨铸铁管技术参数表

Technical Parameters of "T-Type" joint Centrifugal Ductile Cast iron Pipes

公称直径 DN(mm) Nominal Diameter	外 径 DN(mm) Outside Diameter	壁 厚 (mm) Wall Thickness Kg	承口凸部近似重量 kg Approximate Weight of Socket Section	球铁管每米重量 (直管部分)kg Weight Straight Section Kg/m	标准工作长度总重量 kg(L-6000mm) Totat Weight of Standard Working Length lenth L=6000mm	每公里用管数 (根) Number of Pipes Per Mile	每公敷设重量 (吨) Pipe weight Per Mile(Tons) Kg
80	98	6.0	3.4	12.2	76.5	167	12.770
100	118	6.0	4.3	15.1	95	167	15.865
150	170	6.0	7.1	22.8	144	167	20.048
200	220	6.3	10.3	30.6	194	167	32.398
250	274	6.8	14.2	40.2	255	167	42.585
300	326	7.2	18.6	50.8	323	167	53.941
350	378	7.7	23.7	63.2	403	167	67.301
400	429	8.1	29.3	75.5	482	167	80.484
450	480	8.6	38.3	89.3	574	167	95.858
500	532	9.0	42.8	104.3	669	167	111.723
600	635	9.9	59.3	137.3	882	167	147.294
700	738	10.8	79.1	173.9	1123	167	187.541
800	842	11.7	102.6	215.2	1394	167	232.798

管 件

Pipe Fitting >>> >>>

Ductile Iron Fittings Accordance with ISO2531/BS4772/EN545

按国际标准 ISO2531/BS4772/EN545 生产的球墨铸铁管配件规格

序号 No	名称 Name	符号 Symbol
1	承盘短管 Flanged socket	
2	双承套管 Double socket collar	
3	插盘短管 Flanged spigot	
4	11.25° -90° 双承弯管 Double socket bend 11.25° -90°	
5	双承单支盘丁字管 Double socket tee with flenged branch	
6	三承丁字管 All socket tee	
7	双承渐缩管 Double socket reducer	
8	双盘渐缩管 Double flanged reducer	
9	盲法兰盘 Bland flange(board)	
10	11.25° -90° 双盘弯管 Double flanged bend 11.25° -90°	
11	全盘丁字管 All flanged tee	
12	承插盘丁字管 Socket and spigot tee with flanged branch	
13	双承丁字管 Double socket tee	
14	全承十字管 All socket cross	
15	全盘十字管 All flanged cross	
16	11.25° -90° 承插弯管 Socket and spigot bend 11.25° -90°	
17	端堵 End cap	
18	三承一插十字管 Socket/Spigot cross	
19	承插双盘四通 Socket/Spigot cross with flanged branch	
20	承插渐缩管 Socket/Spigot reducer	
21	插承渐缩管 Spigot/Socket reducer	

JIGANG PIPE
OUTSTANDING
QUALITY

◆济钢铸管　品质卓越◆

运输堆放及安装

TRANSPORTATION STACKING AND INSTALLATION>>>

装车、发运 Delivery

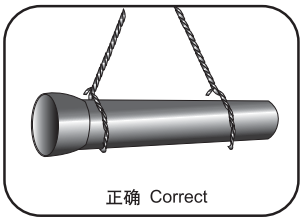
集装箱运输 Shipped in container

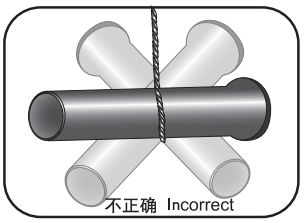
汽车运输 Motor Transportation

≤ DN300mm 管成捆包装供货；>DN300mm 管散装；

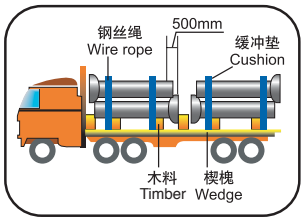
For Pipes ≤ DN300mm,supplied with bundles;For Pipes>DN300mm,supplied in bulk.

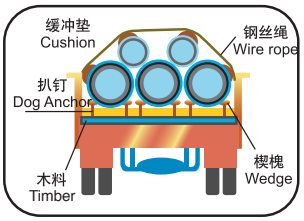
吊装 Lifting



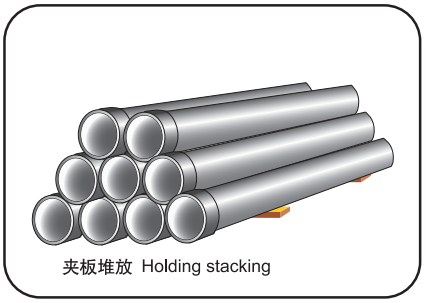


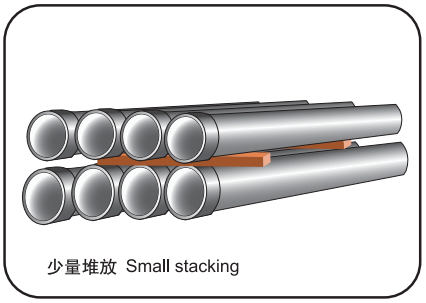
运输 Transport

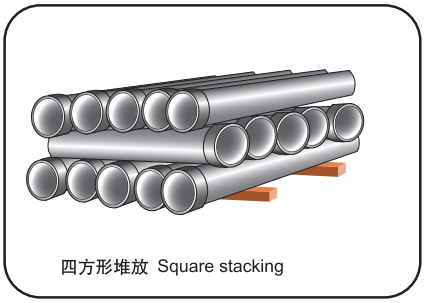




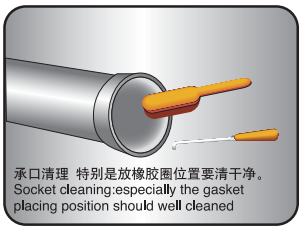
堆放 Stacking

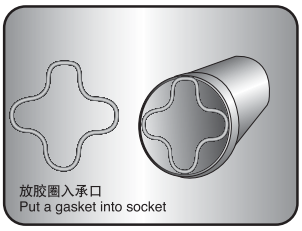


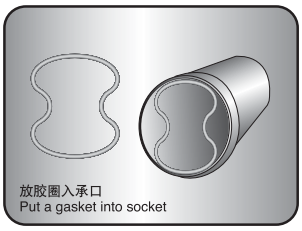


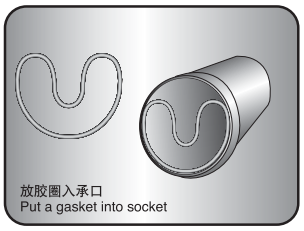


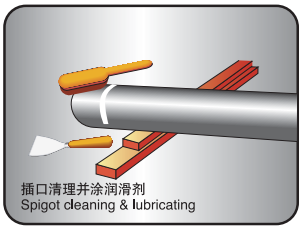
安装 Assembly

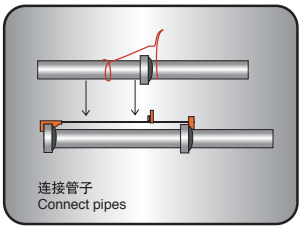


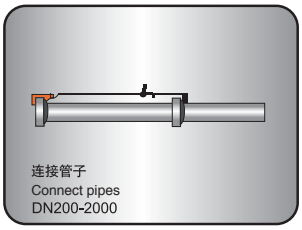


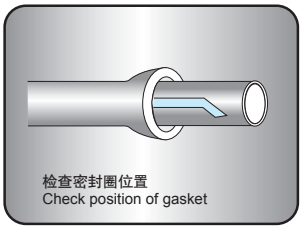












安装：

适合于各种地形和气候条件下施工，简捷的安装方法大大加快工程进度，降低工程成本。

Installation:

Suitable for various topographies and any climate conditions.The simple method installation greatly speeds up the progress of project and reduces investment in project.

JIGANG PIPE
OUTSTANDING
QUALITY

◆济钢铸管　品质卓越◆

销售网络

SALES NET WORK >>> >>> >>>

顾客的需求就是我们的追求

Regard the customers' requirements as our persuit

提供设计、安装施工现场指导及完善的售后服务

Offer advices,on-site assistance and excellent after-sales services

服务 Service

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