SINCE. 1964

SINCE.1964

We have dreams in our hearts

我们心怀梦想

合作 | 共赢 | 专业

Cooperation Win-Win Professional

CONTENTS 目录

PASCAL®

主要产品-隔热保温管

Main product-Thermal insulated tubing

淄博热能科技自 1988 年开始生产研发隔热油套管，是国内最早生产隔热油套管的厂家，其产品包含高真空隔热油套管、气凝胶隔热油套管、地热专用热保温管、油田降粘保温油管以及特殊螺纹和全程无热点隔热管柱系列产品。

ZIBO Thermal Tech has been producing and developing insulated tubing& insulated casing since 1988, which was the earliest manufacturer of insulated tubing& insulated casing in domestic, its products include vacuum insulated tubing& vacuum insulated casing, aerogel insulated tubing& aerogel insulated casing, geothermal specialized insulated tubing, oil well viscosity reducing insulated tubing, premium thread and no hot point overall insulated tubing string series products.

公司产品主要应用于稠油及超稠油开采的“蒸汽驱”、“蒸汽吞吐”、“注采一体化”；地热能源开发的“干热岩”、“中深层同井换热”：油田开发的油井“降粘保温”等领域，公司可根据不同井况和要求定制不同组合管柱及连接结构。

Freet' s products are mainly used in “steam flooding” ,” steam stimulation” , “injection-production integrated technology” ; the “dry hot rock” ,” heat exchange in same well in middle and deep layer” ; oil field development oil well “viscosity reduction and insulation” and other fields, Freet can customize different combination pipe columns and connection structures according to different well conditions and requirements.

标准隔热油套管（隔热衬套）

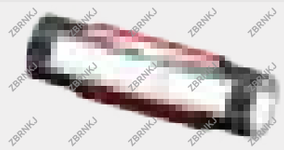
Standard insulated tubing& insulated casing(Seal donut)

气凝胶隔热接箍隔热油套管

Aerogel insulated coupling insulated tubing& insulated casing

小外径 无热点隔热管柱

Small OD no hot point insulated pipe string



小外径 无热点隔热管柱

Small OD no hot point insulated pipe string

直连型无热点隔热管柱

Direct connect no hot point insulated pipe string

主要产品-API标准油套管

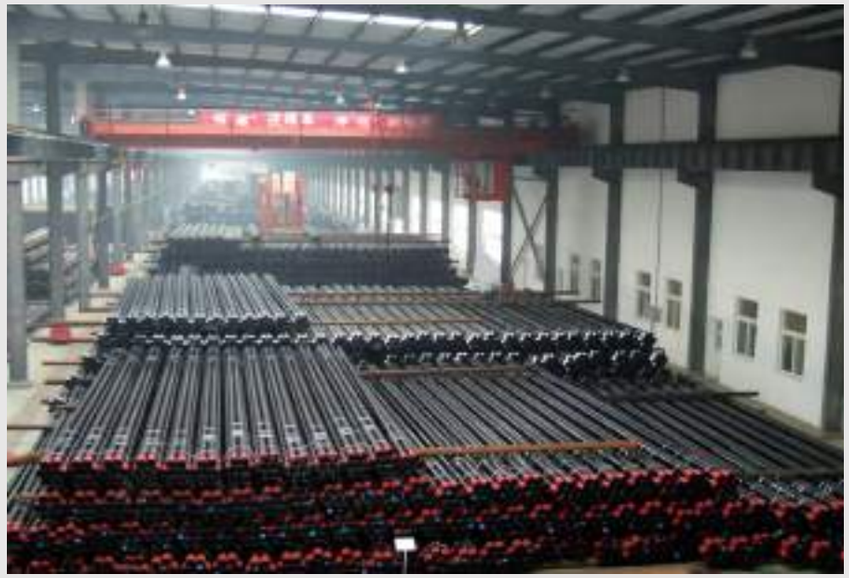
Main product-API standard OCTG

淄博热能科技于2001年取得美国石油学会API会标使用权(会标号:0533)，产品覆盖API5CT标准中所有钢级、管径、螺纹类型。公司拥有专业的管端镦厚、全长热处理、螺纹加工和接箍生产线，所有产品均在公司独立加工完成。公司拥有美国Gagemaker公司的螺纹检测仪、便携式测厚仪、超声波探伤仪、红外线测温仪等在线检测设备和配套齐全的理化实验室，对公司产品质量做出准确的监测和控制。

ZIBO Thermal Tech obtained the right to use the American Petroleum Institute API monogram (License No.: 5CT-0533) in 2001, and its products cover all steel grades, pipe diameters, and thread types in the API 5CT standard. Freet has professional production line for pipe end upset, full length heat treatment, thread processing, portable thickness gauge, ultrasonic flaw detector, infrared thermometer and other online testing equipment of Gagemaker in the United States and a complete physical and chemical laboratory, which can accurately monitor and control the quality of Freet' s products.

公司可根据客户的要求和图纸定制专业的油套管非API标准产品和俄标产品，并可提供油套管产品的来料加工服务，秉持专业服务客户的原则，以最优质的加工服务满足客户要求。

Freet can customize professional tubing&casing non API standard products and Russian standard products according to customer requirements and drawings, and can provide tubing and casing product incoming materials processing service, adhering to the principle of professional service to customers, to meet customer requirements with the highest quality processing services.



主要产品-SLF-FJ系列油套管

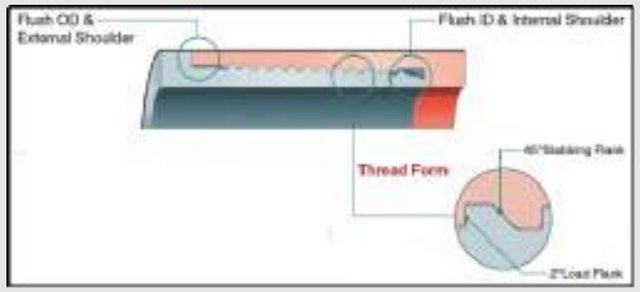
Main product-SLF-FJ series OCTG

SLF-FJ系列侧钻、修井用直连型套管，采用无接箍式直连型特殊螺纹，具有内通径大、固井方便、利于后续作业、螺 纹连接强度高、密封性能优越等特点；广泛用于套损井修复、侧钻完井、加深 井完井、尾管悬挂完井等领域，并获得国家专利。

SLF-FJ series flush casing can be used in casing patching and sidetracking well completion. Using flush thread connection without coupling, it has the advantages of large ID, convenient cementing, convenient follow-up operations, higher thread connection strength and good sealing performance,etc. It has been widely used in the application fields of repairing casing for damage wells, sidetracking well completion, deepening the well completion, liner hanger technology,etc. In 2012, SLF-FJ series casing was authorized national utility model patent certificate.

SLF-FJ螺纹：

SLF-FJ thread



SLF-FJ2螺纹

SLF-FJ2 thread

SLF-FJ3螺纹

SLF-FJ3 thread

主要产品-STJ系列油套管

Main product-STJ series OCTG

STJ-SN是一种多功能的油套管螺纹接头，该螺纹连接强度高、密封性能良好，可以与NEW VAM互换使用；适用于中深井、深井、气井以及稠油热采井。产品远销俄罗斯、西亚、南亚等国际市场，赢得广泛认可。

●规格及牙型Specifications and thread form：

油管Tubing：2-3/8″ - 2-7/8 ″ 8TPI；3-1/2″ - 4-1/2″ 6TPI；

套管Casing：5″ - 13-3/8″ 5TPI

STJ-SN is a kind tubing and casing connection which is interchangeable with the NEWVAM connection joints. It has excellent sealing properties and thread connection strength. It is suitable for middle, deep, gas and thermal recovery wells. Products has been exported to Russia, West Asia, South Asia and other international markets, winning wide recognition.

STJ-ST是一种多功能的油套管螺纹接头，可以与VAM TOP互换使用，抗弯曲、压缩和扭矩性能优良；具有良好的气密封性能，在压力、温度、弯曲和压缩等各种复合载荷下的气密封性能稳定可靠，适用于深井、高深井和高压气井。

●产品规格及牙型Specifications and thread form：

油管Tubing：2-3/8″ - 2-7/8 ″ 8TPI；3-1/2″ - 4-1/2″ 6TPI；

套管Casing： 5″ - 7-5/8″ 5TPI；8-5/8″以上 4TPI；

STJ-ST is a kind of multi-function tubing and casing connection which is interchangeable with VAMTOP connection joints. It has excellent resistance of bending, compression and torque, and has good sealing performance. Reliable gas-tight sealing under any kind of combined loads such as pressure, temperature, bending and compression loads. It is suitable for application in deep wells, super deep wells, and high pressure gas wells.

主要产品-俄标油套管

Main product-Russian standard OCTG

2008 年获得国内第一家俄罗斯 TR 认证。俄标套管除涵盖全部 API 系列所有规格外，还独有Φ146、Φ324、Φ426 ㎜等特殊规格系列，套管螺纹包括 OTTM、OTTG（气密扣）、TBG（内螺纹端加厚直连气密扣）等。油管接头类型包括外加厚、密封不加厚油管（HKM）、外加厚直连等油管（HKB）等，为油井的结构设计提供更多选择；已出口俄罗斯、中亚 1 万多吨。

In 2008, FREET company became the first oil casing manufacturers in China which was issued Gost-R three-year certificate. In addition to covering all of API casing series, Russian standard also includes Φ146mm, Φ324mm, Φ426mm and other special casing specifications. The three types of casing thread connection includes OTTM(similar to the BC), OTTG(sealing thread) and TBG(internal upset and flush sealing thread). Tubing thread connection includes pipe end external upset, HKM (sealing non-upset thread), HKB(external upset and flush thread), etc. It can provide more choices in well structural design. Up to now, we have more than 10000 tons of products exported to Russia and Central Asia.

主要产品-膨胀套管

Main product- Expandable casing

2007 年与胜利油田钻井工艺研究院合作，参与国家 863 项目“膨胀管钻井技术”课题研究，拥有膨胀管材、膨胀螺纹、膨胀机构和密封悬挂装置等核心关键技术，形成 4-1/4″、5-1/2″、6″、7-5/8″、8-5/8″、10-3/4″等膨胀套管产品，公司年产 2 万米膨胀套管和 4000 对膨胀螺纹，应用于套管补贴、侧钻井完井、钻井封堵、悬挂器完井等领域，在中石化、中石油、中海油各油田成功进行千余口井膨胀作业，多次创造国产膨胀套管单井作业深度和施工长度的新纪录，形成独特的钻井、完井、修井工程应用技术；公司被授予“国家 863 计划膨胀管技术专用管生产基地”。

In 2007, FREET cooperated with the Drilling Technology Research Institute of Shengli Oilfield and participated in the research of the "Expansion Pipe Drilling Technology" project of the National 863 Program. We have core key technologies such as expansion pipes, expansion threads, expansion mechanisms, and sealing suspension devices, forming expansion casing products such as 4-1/4 ", 5-1/2", 6 ", 7-5/8", 8-5/8 ", and 10-3/4". The company produces 20000 meters of expandable casing and 4000 pairs of expansion threads annually, which are applied in fields such as casing subsidies, sidetracking completion, drilling plugging, and suspension completion. We have successfully carried out over a thousand well expansion operations in various oil fields such as SINOPEC, CNPC, and CNOOC, and have created domestic expandable casing single well operations multiple times. A new record of depth and construction length, forming unique drilling, completion, and repair engineering application technologies; The company has been awarded the "National 863 Plan Expansion Pipe Technology Special Pipe Production Base".

主要产品–降粘保温管

Main product- Viscosity reducing insulated tubing

在油田开采过程中，油井和管道中的液体往往需要保持在一定的温度范围内，以确保其正常流动和加工。然而，在寒冷的冬季，低温可能导致油井和管道中的液体流动性降低甚至出现井筒结蜡或沉积堵塞，从而影响生产效率，严重的会造成设备损坏。
公司利用自身技术及产品优势，研发了油田采油用降黏保温管，可实现并筒的全程保温，提高举升过程中的原油温度 ， 可完全取代目前常用的电加热或燃气加热方式，保证原油生产与输送、降低能耗和生产成本的同时减少碳排放。

In the process of oilfield exploitation, the liquid in the oil wells and pipelines often needs to be maintained within a certain temperature range, to ensure its normal flow and processing. However, in cold winter, low temperatures may cause fluid in wells and pipelines reduced body fluidity and even the occurrence of wellbore wax accumulation or deposition blockage, thus can affect the production efficiency, serious will cause equipment damaged.
Freet has utilized its own technological and product advantages, to R&D viscosity reducing insulated tubing used for oilfield oil production, can achieve full heat insulation of the wellbore, increasing the temperature of the crude oil during lifting process, can completely replace the current commonly used electric heating or gas heating methods, ensure the production and transportation of the crude oil, reduce energy consumption and production costs while reducing carbon emissions.

降粘保温管的特点：

The characteristic of viscosity reducing insulated tubing

(1) 全管柱隔热，提高油管内的原油温度，降低原油粘度改善其流动性；
Whole pipe string is insulated to increase temperature of the crude oil in the tubing, reduce the viscosity of crude oil, improve its fluidity ;

(2) 可优选配置内衬管，减缓杆管偏磨、管柱腐蚀等问题；
It could optimize the configuration of inner liner tubing to alleviate problems such as eccentric wear of rods and tubings, and corrosion of pipe string;

(3) 可与标准油管及工具实现等通径或更大通径连接，便于后续作业。
It can be connected to standard tubing and tools with equal or larger diameters, facilitating subsequent operations.

04 Typical example-

典型实例-

无热点结构管柱-稠油热采

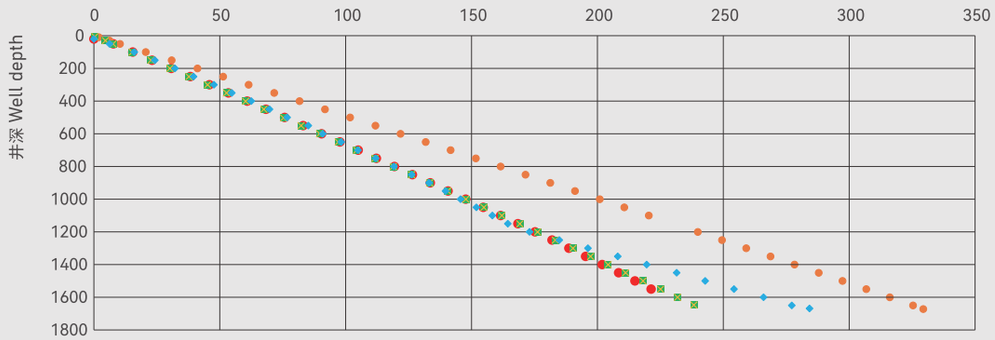
No hot point structure pipe string- Heavy oil thermal recovery

采用淄博热能科技新型隔热油管，进行高温四参数测试。
测试结果显示：新型隔热油管隔热性能良好。

D island adopts ZIBO Thermal Tech new type insulated tubing to conduct high-temperature four parameter testing on D405 well. The test results show that the new type insulated tubing has good insulation performance.

Y=0.1434X+2.774	Y=0.1972X+2.3187	Y=0.1449X+1.7218	Y=0.161X-5.4862
热敏封隔器 + 新型隔热油管 Heat sensitive packer+new insulated tubing	热敏封隔器 + 隔热油管 Heat sensitive packer+ insulated tubing	热敏封隔器 + 隔热油管+氮气 Heat sensitive packer+insulated tubing+nitrogen	隔热油管 + 氮气 Insulatedtubing + nitrogen
● D405-13	● C14-14	▪ A22-14	◆ C14-14

热损（kj-kg）
Heat loss



典型实例-
小直径无热点管柱-中海油注采一体化

Typical example-
Small diameter No hot point pipe string-
integrated injection and production of CNOOC

中海油250℃电泵一体化技术应用

Application of 250℃ electric pump integrated technology

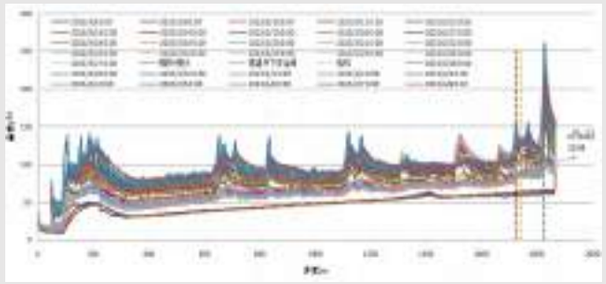
蒸汽注入压力：9.2-15.8MPa
蒸汽注入温度：350℃
注入蒸汽干度：70-94%
注入蒸汽速度：8-10t/d
氮气注入压力：14.5-18.5MPa

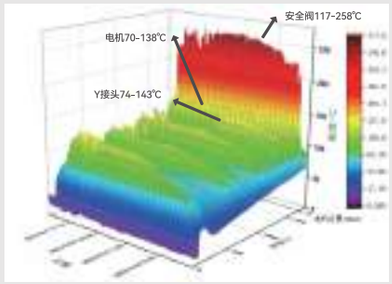
电泵机组温度为：70-138℃
（小直径无热点管柱外部温度）

Y接头处温度为：74-143℃
井下安全阀温度：117-258℃

Steam injection pressure: 9,2-15,8 MPa
Steam injection temperature: 350℃
Steam injection dryness: 70-94°c%
Steam injection speed: 8-10 t/d
Nitrogen injection pressure: 14.5-18.5MPa

Electric pump unit temperature: 70-138℃
(Small diameter no hot point pipe string outer temperature)
Temperature at Y-joint: 74-143℃
Downhole safety valve temperature: 117-258℃





典型实例-
无热点结构管柱-干热岩用地热保温管

Typical example-
No hot point structure pipe string-
Geothermal insulated tubing for dry hot rock

实施单位 Implemented by
中国地质调查局水文环境地质调查中心
Hydrological Environmental Geological Survey Center of China Geological Survey

应用地点 Application location
青海共和盆地干热岩实验基地
Qinghai Gonghe Basin Dry hot rock experimental base

井深 Well depth
4000米
4000m

钻井数量 Well drilling quantity
7口
7 wells

换热方式 Heat exchange method
压裂连通3口井，采取1注2采方式实验
Connect three wells through fracturing, the experiment was conducted using one injection well and two extraction well.

隔热保温管下深 Insulated tubing use depth
1000米
1000m

隔热保温管型号 Insulated tubing Spec
114×76气凝胶+气凝胶隔热接箍
114*76 Aerogel+Aerogel insulated coupling

隔热保温管生产厂家 Insulated tubing manufacturer
淄博孚瑞特
ZIBO FREET

	保温管1000米，油管3000米 Insulated tubing 1000m Tubing 3000m	**保温管0米，油管4000米** Insulated tubing 0m Tubing 4000
保温管出口温度（℃） Insulated tubing outlet temperature	**123**	——
油套环空出口温度（℃） Outlet temperature of annulus between tubing& casing	**90**	——
出口温度（℃） Outlet temperature	**90**	**46**

典型实例-
小直径无热点管柱-中深层地热保温管

Typical example-
Small diameter No hot point pipe string-
medium to deep geothermal insulated tubing

实施单位 Implemented by

中煤科工西安研究院集团

CCTEG Xi' an Research Institute

应用地点 Application location

西安高新区锦业一路82号

82 Jinye 1st Rd, Xi' an Shanxi, China

井深 Well depth

3500、3500、3200米

3500,3500,3200m

钻井数量 Well drilling quantity

3口

3 wells

换热方式 Heat exchange method

单井换热

Single well heat exchange

隔热保温管下深 Insulated tubing use depth

3460、3460、3160米

3460m, 3460m,3160m

隔热保温管型号 Insulated tubing Spec

114×78小外径无热点隔热管柱

114*78 Small OD no hot point insulated pipe string

系统制热能效系数：5.08

System heating energy effciency coefficient is 5.08

系统制热性能系数为：4.01

System heating performance coefficient is 4.01

单口地热井取热功率：860~1000kW

Heat extraction power of a single geothermal well is 860-1000KW

延米换热功率：280~300W/m

Heat exchange power per linear meter is 280-300W/m

单井供暖面积：2.7 ~ 3.0万m^2

Single well heating area of 27000-30000 square meters

典型实例-
小直径无热点管柱-中深层地热保温管

Typical example-
Small diameter no hot point pipe string-
medium to deep geothermal insulated tubing

实施单位 Implemented by

西安深恒节能科技有限公司

Xi' an XX Technology Co., Ltd.

应用地点 Application location

西安 万科雁鸣湖、星皓·锦樾

Xi' an Vanke YanmingLake, xinghao-jingyue

井深 Well depth

2800米、3100米、3200米

2800m, 3100m,3200m

钻井数量 Well drilling quantity

9口

9 wells

换热方式 Heat exchange method

单井换热

Single well heat exchange

隔热保温管下深 Insulated tubing use depth

2000米

2000m

隔热保温管型号 Insulated tubing Spec

114×79小外径无热点隔热管柱

114*79 small OD no hot point insulated pipe string

最大出热量：1100kw~1450kw/口井
连续出热量：750kw~1000kw/口井
年度减碳量：819吨~1092吨/口井

Maximum heat output: 1100-1450kw/well
Continuous heat output: 750kw-1000kw/well
Annual carbon reduction: 819 tons to 1092 tons/well

典型实例-
降粘保温管-鲁明公司临邑管理区QTQ9-P7井

Typical example-
Viscosity insulated tubing-
Luming company Jibei Management area

QTQ9-P7井：改造方案 | QTQ9-P7 well:
Modification scheme

下入950米保温管后（泵入口温度46.11℃），与施工前比较，井口最高温度提高约14℃。

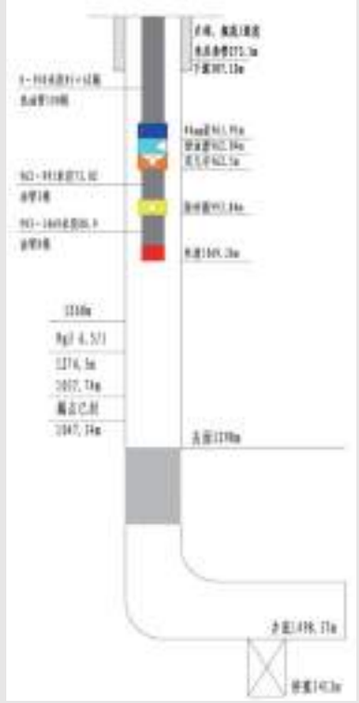
After running 950 meters of insulated tubing (pump inlet temperature 46.11℃), the maximum wellhead temperature increased by about 14℃ compared with before construction.

施工前的井口温度历史数据
Historical wellhead temperature data before construction

2019年9月10日-13日数据 Data for Sep 10-13th,2019	2019年11月1日-2日数据 Data for Nov 1-2nd , 2019
液量10m³天 Liquid capacity 10m³/ day	液量10m³天 Liquid capacity 10m³/ day
最高温度：26.7℃ Maximum temperature	最高温度：26.7℃ Maximum temperature
最低温度：24.9℃ Minimum temperature	最低温度：16.3℃ Minimum temperature

施工后的井口温度
Wellhead temperature after construction

2023年6月27-28日数据 Data for June 27-28th,2023
液量10m³/天 Liquid capacity 10m³/ day
最高温度：41.21℃ Maximum temperature
最低温度：40.31℃ Minimum temperature



典型实例-
降粘保温管-鲁明公司临邑管理区LNX132-X510井

Typical example-
Viscosity insulated tubing-
Luming company Linyi Management area LNX132-X510 well

下入1985米保温管后（泵入口温度87.5℃），与施工前比较，井口最高温度提高约43℃。

After running 1985 meters of insulated tubing (pump inlet temperature 87.5℃), the maximum wellhead temperature increased by about 43℃ compared with before construction.

施工前的井口温度历史数据
Historical wellhead temperature data before construction

2023年9月27日数据 Data for Sep 27th, 2023
液量10m³/天 Liquid capacity 10m³/ day
最高温度：25.8℃ Maximum temperature
最低温度：20.1℃ Minimum temperature

施工后的井口温度
Wellhead temperature after construction

2023年11月21日数据 Data for Nov 21th 2023
液量17-18m³/天 Liquid capacity 17-18m³/ day
最高温度：68.02℃ Maximum temperature
最低温度：65.87℃ Minimum temperature

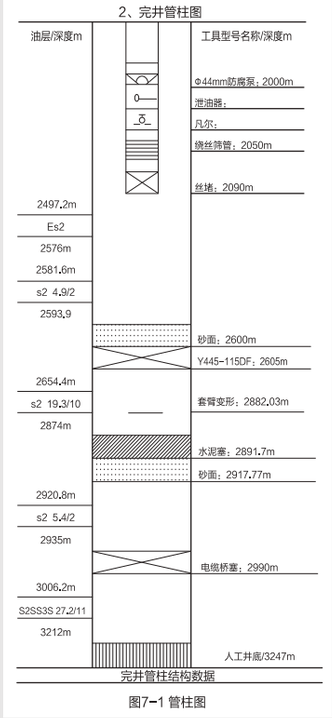


图7-1 管柱图

05 Main product

主要产品-API标准油套管技术参数

API standard OCTG technical parameter

外加厚油管
主要技术参数 | EU tubing main
technical parameters

序号 No	规格 Spec.	管体外径 Pipe OD mm	管体壁厚 Pipe wall thickness mm	接箍外径 Coupling OD	钢级 Grade	静水压试验压力 Hydrostatic test pressure Mpa	内压屈服强度 Internal pressure yield strength Mpa	抗挤毁强度 Collapse resistance strength Mpa	螺纹极限压力 Thread limit pressure KN	推荐机紧扭矩N·M (最小Min-最佳Opti-最大Max) Recommended machnical tightening torqueN. M(Min-Opti-Max)
1	1.66	42.16	3.56	55.88	J55	51.2	55.9	58.5	163.7	710-940-1170
					N80	69.0	81.4	85.2	238.0	980-1300-1620
					L80	69.0	81.4	85.2	238.0	960-1270-1580
2	1.9	48.26	3.68	63.50	J55	46.0	50.6	53.4	195.3	900-1190-1480
					N80	67.5	73.6	77.7	284.2	1240-1650-2060
					L80	67.5	73.6	77.7	284.2	1210-1610-2010
3	2-3/8	60.32	4.83	77.80	J55	48.5	53.1	55.8	318.9	1320--1750-2180
					N80	69.0	77.2	81.2	463.9	1840--2450-3060
					L80	69.0	77.2	81.2	463.9	1800-2390-2980
					P110	69.0	106.1	111.1	637.8	2310-3080-3850
4	2-7/8	73.02	5.51	93.17	J55	46.0	50.0	52.9	443.5	1680-2230-2780
					N80	66.5	72.8	77.0	645.0	2340-3120-3900
					L80	66.5	72.8	77.0	645.0	2290-3050-3810
					P110	69.0	100.1	100.2	886.5	2960-3940-4920
5	3-1/2	88.9	6.45	114.30	J55	44.0	48.2	51.0	633.8	2320-3090-3860
					N80	64.0	70.0	72.6	921.7	3250-4330-5410
					L80	64.0	70.0	72.6	921.7	3180-4240-5300
					P110	69.0	96.3	93.2	1267.2	4120-5490-6860
6	4	101.6	5.74	127.00	J55	39.5	43.4	45.4	752.6	2610-3470-4330
					N80	58.0	63.2	60.6	1095.1	3660-4880-6100
					L80	58.0	63.2	60.6	1095.1	3590-4780-5970
7	4-1/2	114.3	6.88	141.30	J55	36.5	40.0	39.5	880.7	2910-3870-4830
					N80	53.0	58.1	51.7	1281.0	4090-5450-6810
					L80	53.0	58.1	51.7	1281.0	4010-5340-6670

主要产品-API标准油套管技术参数

Main product- API standard OCTG technical parameter

不加厚油管
主要技术参数 | NU tubing main
technical parameters

序号 No	规格 Spec.	管体外径 Pipe OD mm	管体壁厚 Pipe wall thickness mm	接箍外径 Coupling OD	钢级 Grade	静水压试验压力 Hydrostatic test pressure Mpa	内压屈服强度 Internal pressure yield strength Mpa	抗挤毁强度 Collapse resistance strength Mpa	螺纹极限压力 Thread limit pressure KN	推荐机紧扭矩N·M (最小Min-最佳Opti-最大Max) Recommended machnical tightening torqueN.M (Min-Opti-Max)
1	1.66	42.16	3.56	52.17	J55	51.2	55.9	58.5	94.7	360-470-580
					N80	69.0	81.4	85.2	137.9	500-660-820
					L80	69.0	81.4	85.2	137.9	480-640-800
2	1.9	48.26	3.68	55.88	J55	46.0	50.6	53.4	116.5	420-560-700
					N80	67.5	73.6	77.7	169.9	590-780-970
					L80	67.5	73.6	77.7	169.9	570-760-950
3	2-3/8	60.32	4.83	73.02	J55	48.5	53.1	55.8	219.7	750-990-1230
					N80	69.0	77.2	81.2	319.8	1040-1380-1720
					L80	69.0	77.2	81.2	319.8	1020-1350-1680
					P110	69.0	106.1	111.1	439.9	1310-1740-2170
4	2-7/8	73.02	5.51	88.9	J55	46.0	50.0	52.9	322.9	1070-1420-1770
					N80	66.5	72.8	77.0	469.7	1500-1990-2480
					L80	66.5	72.8	77.0	469.7	1460-1940-2420
					P110	69.0	100.1	100.2	645.8	1890-2510-3130
5	3-1/2	88.9	6.45	107.95	J55	44.0	48.2	51.0	486.6	1510-2010-2510
					N80	64.0	70.0	72.6	707.7	2110-2810-3510
					L80	64.0	70.0	72.6	707.7	2070-2750-3430
					P110	69.0	96.3	93.2	973.2	2670-3350-4430
6	4	101.6	5.74	120.65	J55	34.5	37.5	35.2	440.4	1250-1660-2070
					N80	50.0	54.5	45.4	640.5	1750-2330-2910
					L80	50.0	54.5	45.4	640.5	1710-2280-2850
7	4-1/2	114.3	6.88	132.08	J55	36.5	40.0	39.5	638.3	1770-2360-2950
					N80	53.0	58.1	51.7	928.3	2490-3310-4130
					L80	53.0	58.1	51.7	928.3	2440-3250-4060

主要产品-API标准油套管技术参数

Main product- API standard OCTG technical parameters

API套管主要技术参数 | API casing main technical parameters

规格 Spec.	管体外径 Pipe OD mm	名义重量 Norminal linear masses T&C kg/m	壁厚 Wall thickness mm	端部加工形式 Type of end-finish					
				H40	J55 K55	L80 C95	N80-1 N80-Q	C90 T95	P110
4-1/2	114.30	14.14	5.21	S	S	–	–	–	–
4-1/2	114.30	15.63	5.69	–	SB	–	–	–	–
4-1/2	114.30	17.26	6.35	–	SLB	LB	LB	LB	LB
4-1/2	114.30	20.09	7.37	–	–	LB	LB	LB	LB
4-1/2	114.30	22.47	8.56	–	–	–	–	–	LB
5	127.00	17.11	5.59	–	S	–	–	–	–
5	127.00	19.35	6.43	–	SLB	–	–	–	–
5	127.00	22.32	7.52	–	SLB	LB	LB	LB	LB
5	127.00	26.79	9.19	–	–	LB	LB	LB	LB
5	127.00	31.85	11.10	–	–	LB	LB	LB	LB
5	127.00	34.53	12.14	–	–	LB	LB	LB	LB
5	127.00	35.86	12.70	–	–	LB	LB	LB	LB
5-1/2	139.70	20.83	6.20	S	S	–	–	–	–
5-1/2	139.70	23.07	6.98	–	SLB	–	–	–	–
5-1/2	139.70	25.30	7.72	–	SLB	LB	LB	LB	LB
5-1/2	139.70	29.76	9.17	–	–	LB	LB	LB	LB
5-1/2	139.70	34.23	10.54	–	–	LB	LB	LB	LB
6-5/8	168.28	29.76	7.32	S	SLB	–	–	–	–
6-5/8	168.28	35.72	8.94	–	SLB	LB	LB	LB	LB
6-5/8	168.28	41.67	10.59	–	–	LB	LB	LB	LB
6-5/8	168.28	47.62	12.06	–	–	LB	LB	LB	LB
7	177.80	25.30	5.87	S	–	–	–	–	–
7	177.80	29.76	6.91	S	S	–	–	–	–
7	177.80	34.23	8.05	–	SLB	LB	LB	LB	–
7	177.80	38.69	9.19	–	SLB	LB	LB	LB	LB
7	177.80	43.16	10.36	–	–	LB	LB	LB	LB
7	177.80	47.62	11.51	–	–	LB	LB	LB	LB
7	177.80	52.09	12.65	–	–	LB	LB	LB	LB
7	177.80	56.55	13.72	–	–	LB	LB	LB	LB
7-5/8	193.68	35.72	7.62	S	–	–	–	–	–
7-5/8	193.68	39.29	8.33	–	SLB	LB	LB	LB	–
7-5/8	193.68	44.20	9.52	–	–	LB	LB	LB	LB
7-5/8	193.68	50.15	10.92	–	–	LB	LB	LB	LB
7-5/8	193.68	58.04	12.70	–	–	LB	LB	LB	LB
7-5/8	193.68	63.69	14.27	–	–	LB	LB	LB	LB
7-5/8	193.68	67.41	15.11	–	–	LB	LB	LB	LB
7-5/8	193.68	70.09	15.88	–	–	LB	LB	LB	LB

主要产品-API标准油套管技术参数

Main product- API standard OCTG technical parameters

套管主要技术参数 | Casing main technical parameters

规格 Spec.	管体外径 Pipe OD mm	名义重量 Norminal linear masses T&C kg/m	壁厚 Wall thickness mm	端部加工形式 Type of end-finish	规格 Spec.	管体外径 Pipe OD mm	名义重量 Norminal linear masses T&C kg/m	壁厚 Wall thickness mm	端部加工形式 Type of end-finish
8-5/8	219.08	35.72	6.71	–	S	–	–	–	–
8-5/8	219.08	41.67	7.72	S	–	–	–	–	–
8-5/8	219.08	47.62	8.94	S	SLB	–	–	–	–
8-5/8	219.08	53.57	10.16	–	SLB	LB	LB	LB	–
8-5/8	219.08	59.53	11.43	–	–	LB	LB	LB	LB
8-5/8	219.08	65.48	12.70	–	–	LB	LB	LB	LB
8-5/8	219.08	72.92	14.15	–	–	LB	LB	LB	LB
8-5/8	244.48	48.07	7.92	S	–	–	–	–	–
8-5/8	244.48	53.57	8.94	S	SLB	–	–	–	–
8-5/8	244.48	59.53	10.03	–	SLB	LB	LB	LB	–
8-5/8	244.48	64.73	11.05	–	–	LB	LB	LB	LB
8-5/8	244.48	69.94	11.99	–	–	LB	LB	LB	LB
8-5/8	244.48	79.62	13.84	–	–	LB	LB	LB	LB
8-5/8	244.48	86.91	15.11	–	–	LB	LB	LB	LB
10-3/4	273.05	48.74	7.09	S	–	–	–	–	–
10-3/4	273.05	60.27	8.89	S	SB	–	–	–	–
10-3/4	273.05	67.71	10.16	–	SB	–	–	–	–
10-3/4	273.05	75.90	11.43	–	SB	SB	SB	SB	SB
10-3/4	273.05	82.59	12.57	–	–	SB	SB	SB	SB
10-3/4	273.05	90.33	13.84	–	–	–	–	SB	SB
10-3/4	273.05	97.77	15.11	–	–	–	–	SB	SB
11-3/4	298.45	62.50	8.46	S	–	–	–	–	–
11-3/4	298.45	69.94	9.53	–	SB	–	–	–	–
11-3/4	298.45	80.36	11.05	–	SB	–	–	–	–
11-3/4	298.45	89.29	12.42	–	SB	SB	SB	SB	SB
13-3/8	339.72	71.43	8.38	S	–	–	–	–	–
13-3/8	339.72	81.10	9.65	–	SB	–	–	–	–
13-3/8	339.72	90.78	10.92	–	SB	–	–	–	–
13-3/8	339.72	101.19	12.19	–	SB	SB	SB	SB	SB
13-3/8	339.72	107.15	13.06	–	–	SB	SB	SB	SB
16	406.40	96.73	9.53	S	–	–	–	–	–
16	406.40	111.61	11.13	–	SB	–	–	–	–
16	406.40	125.01	12.57	–	SB	–	–	–	–
18-5/8	473.08	130.21	11.05	S	SB	–	–	–	–
20	508.00	139.89	11.13	SL	SLB	–	–	–	–
20	508.00	158.49	12.70	–	SLB	–	–	–	–
20	508.00	197.93	16.13	–	SLB	–	–	–	–

主要产品-API标准油套管技术参数

Main product- API standard OCTG technical parameters

API接箍主要技术参数 | API Coupling main technical parameters

常用不加厚油管接箍主要技术性能参数

NU tubing coupling main technical performance parameters

序号 No	规格 Spec.	外径 OD mm	钢级 Grade	螺纹标记 Thread mark	最短长度 Shortest length	标准重量 Standard weight	螺纹表面 Thread surface
1	1.9	55.88	J55；N80；L80；P110	1.9TBG	95.25	0.56	磷化处理 Phosphating treatment
2	2-3/8	73.03	J55；N80；L80；P110	2-3/8TBG	107.95	1.28	
3	2-7/8	88.9	J55；N80；L80；P110	2-7/8TBG	130.18	2.34	
4	3-1/2	107.95	J55；N80；L80；P110	3-1/2TBG	142.88	3.71	
5	4	120.65	J55；N80；L80；P110	4TBG	146.05	4.34	
6	4-1/2	132.08	J55；N80；L80；P110	4-1/2TBG	155.58	4.89	

常用外加厚油管接箍主要技术性能参数

EU tubing coupling main technical performance parameters

序号 No	规格 Spec.	外径 OD mm	钢级 Grade	螺纹标记 Thread mark	最短长度 Shortest length	标准重量 Standard weight	螺纹表面 Thread surface
1	1.9	63.50	J55；k55；N80；P110	1.9UP TBG	98.42	0.84	磷化处理 Phosphating treatment
2	2-3/8	77.8	J55；k55；N80；P110	2-3/8UP TBG	123.83	1.55	
3	2-7/8	93.17	J55；k55；N80；P110	2-7/8UP TBG	133.35	2.40	
4	3-1/2	114.3	J55；k55；N80；P110	3-1/2UP TBG	146.05	4.10	
5	4	127.0	J55；k55；N80；P110	4UP TBG	152.40	4.82	
6	4-1/2	141.3	J55；k55；N80；P110	4-1/2UP TBG	158.75	6.05	

主要产品-API标准油套管技术参数

Main product- API standard OCTG technical parameters

API接箍主要技术参数 | API coupling main technical parameters

API圆螺纹套管接箍尺寸、公差和重量

API knuckle thread casing coupling dimension, tolerance and weight

规格 Spec.	管体外径 Pipe OD mm	接箍外径 Coupling OD mm	最小长度 Minimum length		镗孔直径 Bore diameter mm	承载面宽度 Bearing surface width mm	最小长度 Minimum length mm	
			短接箍 Short coupling	长接箍 Long coupling			短接箍 Short coupling	长接箍 Long coupling
1	2	3	4	5	6	7	8	9
4-1/2	114.30	127.00	158.75	177.80	116.68	3.97	3.62	4.15
5	127.00	141.30	165.10	196.85	129.38	4.76	4.66	5.75
5-1/2	139.70	153.67	171.45	203.20	142.08	3.18	5.23	6.42
6-5/8	168.28	187.71	184.15	222.25	170.66	6.35	9.12	11.34
7	177.80	194.46	184.15	228.60	180.18	4.76	8.39	10.83
7-5/8	193.70	215.90	190.50	234.95	197.64	5.56	12.30	15.63
8-5/8	219.08	244.48	196.85	254.00	223.04	6.35	16.23	21.67
9-5/8	244.48	269.88	196.85	266.70	248.44	6.35	18.03	25.45
10-3/4	273.05	298.45	203.20	–	277.02	6.35	20.78	–
11-3/4	298.45	323.85	203.20	–	302.42	6.35	22.64	–
13-3/8	339.72	365.12	203.20	–	343.69	5.56	25.66	–
16	406.40	431.80	228.60	–	411.96	5.56	34.91	–
18-5/8	473.08	508.00	228.60	–	478.63	5.56	54.01	–
20	508.00	533.40	228.60	292.10	513.56	5.56	43.42	57.04

对于第1、2和3组，外径W的公差为±1%，但不大于±3.18mm。
对于第4组，外径W的公差为±1%，但不大于+3.18 -1.59mm。
a. 接箍的规格代号和相应的管子规格代号相同。
b. 对于所有组，镗孔直径Q的公差为+0.79 0mm。
For groups 1,2and 3, the tolerance of OD W is ±1%, but not greater than±3.18mm.
For group 4, the tolerance for OD W is ±1%, but not greater than +3.18-1.59mm.
a.The specification code of the coupling is the same as the corresponding pipe specification code.
b.For all steel grades, the tolerance for boring diameter Q is +0.790mm.

API偏梯形螺纹套管接箍尺寸、公差和重量

API BC thread casing coupling dimension, tolerance and weight

规格 Spec.	管体外径 Pipe OD mm	接箍外径 Coupling OD mm	最小长度 Minimum length		镗孔直径 Bore diameter mm	承载面宽度 Bearing surface width mm	最小长度 Minimum length mm	
			短接箍 Short coupling	长接箍 Long coupling			短接箍 Short coupling	长接箍 Long coupling
1	2	3	4	5	6	7	8	9
4-1/2	114.30	127.00	123.82	225.42	117.86	3.18	4.55	3.48
5	127.00	141.30	136.52	231.78	130.56	3.97	5.85	4.00
5-1/2	139.70	153.67	149.22	234.95	143.26	3.97	6.36	4.47
6-5/8	168.28	187.71	177.80	244.48	171.83	6.35	11.01	5.65
7	177.80	194.46	187.32	254.00	181.36	5.56	10.54	6.28
7-5/8	193.68	215.90	206.38	263.52	197.23	7.94	15.82	9.29
8-5/8	219.08	244.48	231.78	269.88	222.63	9.52	20.86	10.80
9-5/8	244.48	269.88	257.18	269.88	248.03	9.52	23.16	12.02
10-3/4	273.05	298.45	285.75	269.88	276.61	9.52	25.74	13.39
11-3/4	298.45	323.85	–	269.88	302.01	9.52	28.03	–
13-3/8	339.72	365.12	–	269.88	343.28	9.52	31.77	–
16	406.40	431.80	–	269.88	410.31	9.52	40.28	–
18-5/8	473.08	508.00	–	269.88	476.99	9.52	62.68	–
20	508.00	533.40	–	269.88	511.91	9.52	50.10	–

对于第1、2和3组，外径W的公差为±1%，但不大于±3.18mm。
对于第4组，外径W的公差为±1%，但不大于+3.18 -1.59mm。
a. 接箍的规格代号和相应的管子规格代号相同。
For groups 1,2and 3, the tolerance of OD W is ±1%, but not greater than±3.18mm.
For group 4, the tolerance for OD W is ±1%, but not greater than +3.18-1.59mm.
a.The specification code of the coupling is the same as the corresponding pipe specification code.

主要产品-隔热保温管技术参数

Main product-Thermal insulated tubing technical parameters

高真空
+气凝胶保温管技术参数 | Vacuum+aerogel insulated tubing technical parameters

序号 No	规格 型号 Spec.	钢级 Grade	外管 Outer pipe mm	内管 Inner pipe mm	管体屈服强度 Pipe yield strength kN	接头强度 Joint strength KN	管体耐压强度 Compressive strength of pipe body Mpa		安全系数 Safety coefficient	接箍外径 Coupling OD mm
							外挤 External pressure	内压 Internal pressure		
1	73×40	P110	73.02×5.51	48.26×3.68	886	886	100	101	1.661	101.60
2	89×50	P110	88.9×6.45	60.3×4.83	1267	1267	93	106	1.634	114.3
3	95×62	P110	95.25×5.0	73.02×5.51	1075	922	44	100	1.493	114.3
4	114×76	P110	114.3×6.88	88.9×6.45	1760	1760	63	96	1.560	131
5	114×78	P110	114.3×6.35	88.9×5.49	1633	1633	52	82	1.599	131
6	114×80	P110	114.3×5.21	88.9×4.2	1354	1067	31	62	1.545	127
7	127×90	P110	127×6.43	101.6×5.74	1847	1847	40	75	1.596	152
8	139×101	P110	139.7×7.72	114.3×6.35	2427	2427	51	73	1.643	160
9	139×104	P110	139.7×7.72	114.3×5.21	2427	2427	51	60	1.761	160
10	168×112	P110	168.28×8.94	127×7.52	2140	2140	46	78	1.495	180
11	178×124	N80	177.8×9.19	139.7×7.72	2685	2685	37	53	1.688	210

序号 No	保温管米重 insulated tubing meter weight kg/m	适用井深 Well depth m	保温管总重 Total weight kN	固井套管规格 Specification of cementing casing mm	注采比 Injection-production ratio	连接方式 Connection type	隔热等级 导热系数 Thermal insulation level thermal conductivity W/(m.K)	使用年限 Service life year	隔热形式 Insulation form	
									管体 Pipe body	接箍 Coupling
1	13.61	4000	533	139.7*7.72	3.05	外管接箍式	D-E 0.02-0.002	>15	①高真空 Vacuum ②高真空+气凝胶 Vacuum+Aerogel	气凝胶 Aerogel
2	20.86	3900	775	177.8*9.19	4.81	外管接箍式				
3	21.00	3000	617	177.8*9.19	3.21	外管接箍式				
4	32.92	3500	1129	177.8*9.19	1.43	外管接箍式				
5	29.78	3500	1021	177.8*9.19	1.36	外管接箍式				
6	23.49	3000	690	177.8*9.19	1.43	外管接箍式				
7	33.74	3500	1157	219.*10.16	2.02	外管接箍式				
8	43.08	3500	1477	219.*10.16	1.34	外管接箍式				
9	40.19	3500	1378	219.*10.16	1.29	外管接箍式				
10	58.44	2500	1431	244.48*11.05	1.36	外管接箍式				
11	64.92	2500	1590	273.05*10.16	1.28	外管接箍式 Outer pipe coupling				

隔热保温管，我们很专业

Thermal insulated tubing, we are professional.

公司产品畅销国内各大油田、中深层地热能开发以及配套客户，
国际市场远销30多个国家和地区。

The products sell to domestic major oil fields, medium and deep geothermal energy development and supporting customers, and are exported to more than 30 countries and regions in the international market.