**河北友联橡胶制品有限公司**
HEBEI YOULIAN RUBBER PRODUCTS CO., LTD.
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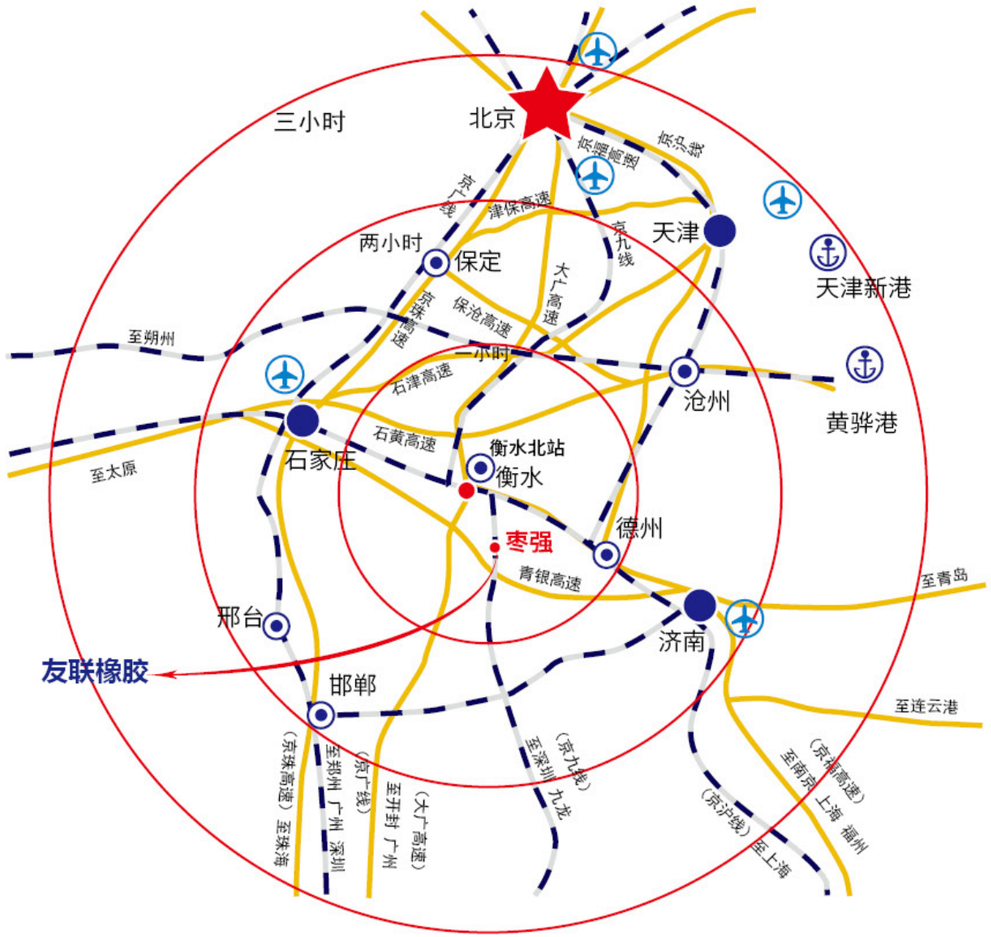
第三版

友联橡胶
YOULIAN RUBBER PRODUCTS



中国•河北•枣强
Zhongguo•Hebei•Zaoqiang

友联橡胶
YOULIAN RUBBER PRODUCTS






## 橡胶密封产品专业生产企业

友联公司位于河北省衡水市，衡水市处在京津冀都市经济圈，四通八达，是全国交通网的重要节点。大广高速贯穿南北，京九铁路、雄商铁路交错纵横。距离北京 300 公里，车程 3 个小时；距离天津港 340 公里，石家庄 150 公里，地理位置得天独厚。

衡水的历史像陈酿的酒一样悠久绵长，她是汉代大儒董仲舒的故乡，是当代“状元”摇篮衡水中学的所在地，更是我们友联公司扎根和发展的沃土。这样的氛围造就了友联人的诚信、勇敢、执着的秉性，为友联插上了腾飞的翅膀。

## Professional manufacturer of rubber sealing products

Youlian is located in Hengshui City, Hebei Province. Hengshui City is in the Beijing-Tianjin-Hebei metropolitan economic circle and is well connected in all directions. It is an important node of the national transportation network. Daguang Expressway runs through the north and south, and Beijing-Kowloon Railway and Xiong-Shang Railway are intertwined and crossed. It is 300 kilometers away from Beijing, 3 hours by car; 340 kilometers away from Tianjin port, and 150 kilometers away from Shijiazhuang. The geographical position is unique.

The history of Hengshui is as long as the aged wine. It is the hometown of Dong Zhongshu, the great Confucian of the Han Dynasty. It is the location of Hengshui High School, the cradle of contemporary "top students". It is also the fertile ground for our company to take root and develop. Such an atmosphere has created the integrity, courage, and perseverance of the Youlian people, which has given Youlian wings to take off.




DREAM BIG AND FOLLOW THROUGH

# 阔步追梦，勇毅前行

河北友联橡胶制品有限公司成立于 1989 年，在这三十多年里，我们友联人专注，务实，锐意进取。通过友联人的不断努力，友联公司已在橡胶制品行业中享有美誉。

河北友联橡胶制品有限公司自成立以来专注致力于涉水类橡胶密封产品的研发、生产、销售，以及为配套服务提供解决方案等。旗下产品涉及 MJ 系列胶圈、滑入式 T 型胶圈、T 型防脱落胶圈、阀门及消防沟槽管件等十余个系列、百余种规格的橡胶密封产品，产品覆盖全国各地市场，并远销西欧、北美等地区。友联公司是一家拥有自营进出口权，真正意义上的集产、销、研于一体的专业制造企业。

发展才是硬道理。社会发展的日新月异，拉动城镇建设的高速发展，给我们企业和产品提供了良好的发展机遇和市场。我们将继续坚持“友联连友，共创富有，追求卓越，奋斗不息”的企业精神和“雷厉风行、纪律严明”的做事风格，以及“靠质量求生存，靠科技求发展”的发展战略，以“节约社会资源，保护自然环境”为己任，不断否定自我，完善自我，强大自我。竭诚与广大客户联手，共创美好的未来。

Hebei Youlian Rubber Products Co., Ltd. was established in 1989. In these thirty years, we Youlian people are focused, practical and enterprising. Through the continuous efforts of the Youlian people, Youlian has gained a good reputation in the rubber products industry.

Since its establishment, Hebei Youlian Rubber Products Co., Ltd. has focused on the research and development, production, and sales of water-related rubber sealing products, as well as providing solutions for supporting services. Our products involve more than ten series and more than one hundred specifications of rubber sealing products, such as M.J. series rubber gaskets, slide-in T-gaskets, T-type anti-dislodging rubber gaskets, valves and firefighting groove fittings. The products cover markets all over the country and are exported to Western Europe, North America and other regions. Youlian has Self-operation Export and Import Right. Youlian is a professional manufacturing enterprise that truly integrates production, sales and research.

Development is the fundamental principle. The rapid development of society has driven the rapid development of urban construction, providing good development opportunities and markets for our company and products. We will continue to adhere to the corporate spirit of "connecting friends, creating wealth together, pursuing excellence, and striving tirelessly", the work style of "being resolute and disciplined", and the development strategy of "relying on quality for survival, relying on technology for development". We take "saving social resources and protecting the natural environment" as our responsibility. We constantly deny ourselves, improve ourselves, and strengthen ourselves. We sincerely work together with our customers to create a better future.



# 友联寄语

## YOULIAN MESSAGE



董事长　苏风淼

Chairman Su Fengmiao

▶友，《说文解字注》：同志为友，周礼注曰：同师曰朋，同志曰友。从二又相交。二又，二人也。善兄弟曰友，亦取二人而如左右手也。友联公司的“友”，取重义重友、诚心合作之意。司马光《潜虚》：天地相友，万汇以生。日月相友，羣伦以明。风雨相友，艸木以荣。君子相友，道德以成。“友”也体现了友联公司合志同方、坚守底线、厚德载物的文化底蕴。

联，连也。又合也。《周礼·地官·大司徒》：以本俗六安万民，三曰联兄弟，四曰联师儒，五曰联朋友。“联”代表了友联企业文化的开放度和包容度。表达了友联人乐于结交君子，共创美好前景的愿望。

友联连友，共创富有。友联人以诚信务实的态度、守正创新的姿态、精益求精的匠心，迎接五湖四海的朋友。愿我们一起创造财富，守护友谊，迎接幸福的明天。

友联橡胶
YOULIAN RUBBER PRODUCTS

# DEVELOPMENT HISTORY
# 饮水思源，述往思来

落其实者思其树，饮其流者怀其源。无论我们走多远，走向多么光辉的未来，都不能忘记走过的路，不能忘记我们从哪里来，为什么出发。友联事业创始于1989年，经历了三十多年的创新升级。友联人兢兢业业、奋斗不息的探索和努力，为友联创办百年品牌打下了坚实的基础。

Be grateful for the past. No matter how far we go and how glorious our future may be, we won't forget the path we have taken. We won't forget where we came from and why we started. Youlian Enterprise was founded in 1989 and has gone through more than 30 years of innovation and upgrading. The dedicated and tireless exploration and efforts of the Youlian people have laid a solid foundation for the establishment of Youlian's century-old brand.

**1989 年**
友联诞生，梦想的种子生根发芽。

**1994 年**
友联开始生产美国标准 ANSI/AWWA. C111/A21.11 的系列产品，正式迈进美国市场，并受到市场认可和好评。

**2000 年**
开始使用先进的注射工艺生产，引进第一台注射硫化机。

**2004 年**
河北友联橡胶制品有限公司通过美国 UL 认证。标准化生产，产品口碑得到进一步提升。

**2006 年**
河北友联橡胶制品有限公司加入橡胶协会并通过美国 NSF61 饮用水安全认证，市场更加广阔。

**2015 年**
河北友联橡胶制品有限公司获得了欧洲 WARS 饮用水安全认证，从此进入欧盟市场。

**2019 年**
通过了《静密封橡胶制品使用寿命的快速预测方法》认证。“一种基于 Copula 函数多元退化的 O 型橡胶密封圈寿命预测方法”获发明专利。

**2020 年**
河北友联橡胶制品有限公司编制的《直埋球墨铸铁热力管道设计标准》(DB13( J )/T8341-2020）发布。通过了省级高新技术企业认证。引进了 4m*4m 的大型平板硫化机。

**2021 年**
参与制定了《热力用预制直理球墨铸铁管道应用技术规程》，参与了《静密封橡胶制品使用寿命的快速预测方法》国家标准的制定，主导制定了《球墨铸铁管给水管道设计标准》，通过了河北省工业企业研发机构认证。

**2022 年**
友联新厂区正式投入使用。建成先进的一次法密炼中心。获誉河北省“专精特新”中小企业。

## EFFICIENT MANAGEMENT SYSTEM
# 精准思维，精细管理

砥砺自立自强之志，锤炼独创独有之能，友联公司人员无论是在项目中，还是在研发生产里，必以匠工的精神提供最专业的产品。用智研发，用心生产，友联公司以客户为导向，做到专业领域的细节之王。

To sharpen the will of self-reliance and self-improvement and to refine the ability of originality and uniqueness, the personnel of Youlian Company will provide the most professional products with the spirit of craftsmanship, whether in projects, R&D, or production. With the wisdom of research and development and diligence in production, Youlian is customer-oriented and the king of details in the professional field.




友联事业管理团队




友联综合办公室




友联研发办公室

友联橡胶
YOULIAN RUBBER PRODUCTS

# QUALIFICATIONS AND HONORS
# 承荣载誉，蓄势竞上

以专注细节的精神成就卓越的国际品质，河北友联推动着橡胶密封制品行业品质化发展的脚步。历经多年的精耕不辍，友联先后顺利通过ISO9001国际质量体系认证，ISO14001环境管理体系认证，美国UL体系认证，美国NSF61饮用水安全认证，英国WRAS饮用水安全认证等众多行业权威资质认证。建立健全了质量保证体系，稳步提升了企业的核心竞争力。

河北友联橡胶制品有限公司先后被认定为中国铸造协会第七届会员单位、河北省城镇供热协会会员单位、中国城镇供热协会团体会员，信用评价为AAA级。

With the spirit of focusing on details to achieve excellent international quality, Hebei Youlian promotes the development of quality in the rubber sealing products industry. After years of hard work, Youlian has successfully obtained ISO9001 international quality system certification, ISO14001 environmental management system certification, UL certification, NSF61 drinking water safety certification, WRAS drinking water safety certification, and many other authoritative qualifications in the industry. We have established a sound quality assurance system and steadily improved the core competitiveness of our company.

Hebei Youlian Rubber Products Co., Ltd. has been recognized as the seventh member of the China Foundry Association, the member of the Hebei District Heating Association, and the member of the China District Heating Association, with the credit rating of AAA.































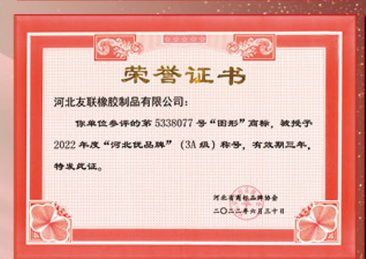
部分专利证书



























## RESEARCH AND DEVELOPMENT CAPABILITIES

# 邃密群科，弥高弥坚

河北友联橡胶制品有限公司拥有自己的研发队伍，也拥有设施齐备的大型实验室，能够自主研发各类型橡胶密封圈，同时也能为客户量身定制多种类型、多种用途的密封产品。除此之外，友联公司为提高研发水平，与国家大型铸管公司的研发中心共同成立了热力管道密封圈的研发团队，研发成果现已批量投产。

河北友联橡胶制品有限公司还与燕山大学、河北工业大学等科研机构合作，立足自身技术优势，搭建新平台，走“产”、“学”、“研”相结合的道路。实现了产品开发的系统化、系列化。现研发成果已拥有多项国家专利，研发的力量确保了各项目的产品在橡胶市场中的优势地位。

Hebei Youlian Rubber Products Co., Ltd. has its own R&D team and a large laboratory with all facilities, which can independently develop various types of rubber seals and also customize sealing products for various types and purposes. In addition, to improve the level of research and development, Youlian has set up a research and development team for heat pipe seals together with the R&D center of a large national casting company, and the research and development results are now in batch production.

Hebei Youlian Rubber Products Co., Ltd. also cooperates with Yanshan University, Hebei University of Technology, and other scientific research institutions, based on its technical advantages, to build a new platform, to take the road of combining "production", "study" and "research". We have realized the systematization and serialization of product development. Now the research and development achievements have lots of national patents. The strength of R&D ensures the superiority of our products in the rubber market.




友联研发中心化学分析实验区




友联研发中心化学分析实验区



友联研发中心物理实验区



友联研发中心物理实验区

INDUSTRY STANDARD SETTER

# 行业标准，研发实力

河北友联橡胶制品有限公司是行业标准的制定者。友联公司是唯一一家参与了河北、河南、陕西、山西、新疆与甘肃六省供热标准制定的橡胶生产企业。友联公司制定和参与制定的行业标准众多，其中，河北省工程建设地方标准《直埋球墨铸铁热力管道设计标准》(DB13(J)/T8341-2020)、《球墨铸铁管道给水管道设计标准》(DB13(J)8416-2021),陕西省工程建设标准《热力用预制直埋球墨铸铁管道应用技术规程》(DBJ61/T187-2021)与中华人民共和国国家标准《静密封橡胶制品使用寿命的快速预测方法》(GB/T 27800-2021)已经发布。

Hebei Youlian Rubber Products Co., Ltd. is the maker of the industry standards. Youlian is the only rubber manufacturer that has participated in the formulation of heating standards in six provinces: Hebei, Henan, Shaanxi, Shanxi, Xinjiang and Gansu. Youlian has formulated and participated in the formulation of many industry standards, including the Local Standards for Engineering Construction in Hebei Province – "Design Standards for Directly Buried Ductile Iron Heat Pipes" (DB13(J)/T8341-2020), "Design Standards for Ductile Iron Pipe Water Supply Pipelines" (DB13(J)8416-2021), Shaanxi Province Engineering Construction Standard – "Application Technical Regulations of Prefabricated Directly Buried Ductile Iron Pipes for Heat " (DBJ 61/T 187-2021) and the National Standard of the People's Republic of China – "Rapid Prediction Method of Service Life of Static Seal Rubber Products" (GB/T 27800-2021). They have been released.





老化实验区



检测实验区



自然老化区



物理实验区



老化实验区



老化实验区



产品寿命实验区




老化实验区

友联橡胶
YOULIAN RUBBER PRODUCTS

# STRIVE FOR PROGRESS
# 精益求精，设施完备

友联公司设有自己的实验室、密炼中心、硫化车间、检验车间、半成品库、成品库，可以完成从生胶到胶圈的独立生产过程。公司试验设备、生产设备和检验检测设备齐全，配套设施完善。友联拥有业内最先进的一次法密炼中心和智能化硫化设备，以及全程数控的量产车间，为客户提供一流的产品和服务。

Youlian has its own laboratories, refining centers, vulcanization workshops, inspection workshops, semi-finished product warehouses and finished product warehouses, which can complete the independent production process from raw rubber to rubber rings. The company has complete test equipment, production equipment and inspection and testing equipment, and perfect supporting facilities. Youlian has the most advanced one-through method refining center and intelligent vulcanization equipment in the industry, as well as a full numerical control mass production workshop to provide customers with first-class products and services.




一次法密炼中心



一次法密炼中心 1 工区



一次法密炼中心 2 工区



一次法密炼中心 3 工区



一次法密炼中心 4 工区

# INTELLIGENT MANUFACTURE
# 匠心智造，设备先进

工欲善其事，必先利其器。友联公司以匠心为本，以打造高质量精品为目标。智能化的生产设备、系统化的工艺流程、严谨的质量检验，不断提高的管理水平，赋予了友联品牌持久的美誉度，广泛的社会认可。

It is necessary to have effective tools to do good work. Youlian Company values craftsmanship and aims to create high-quality products. The intelligent production equipment, systematic process flow, rigorous quality inspection, and continuously improving management level have endowed the Youlian brand with a lasting reputation and widespread social recognition.

硫化车间



硫化车间



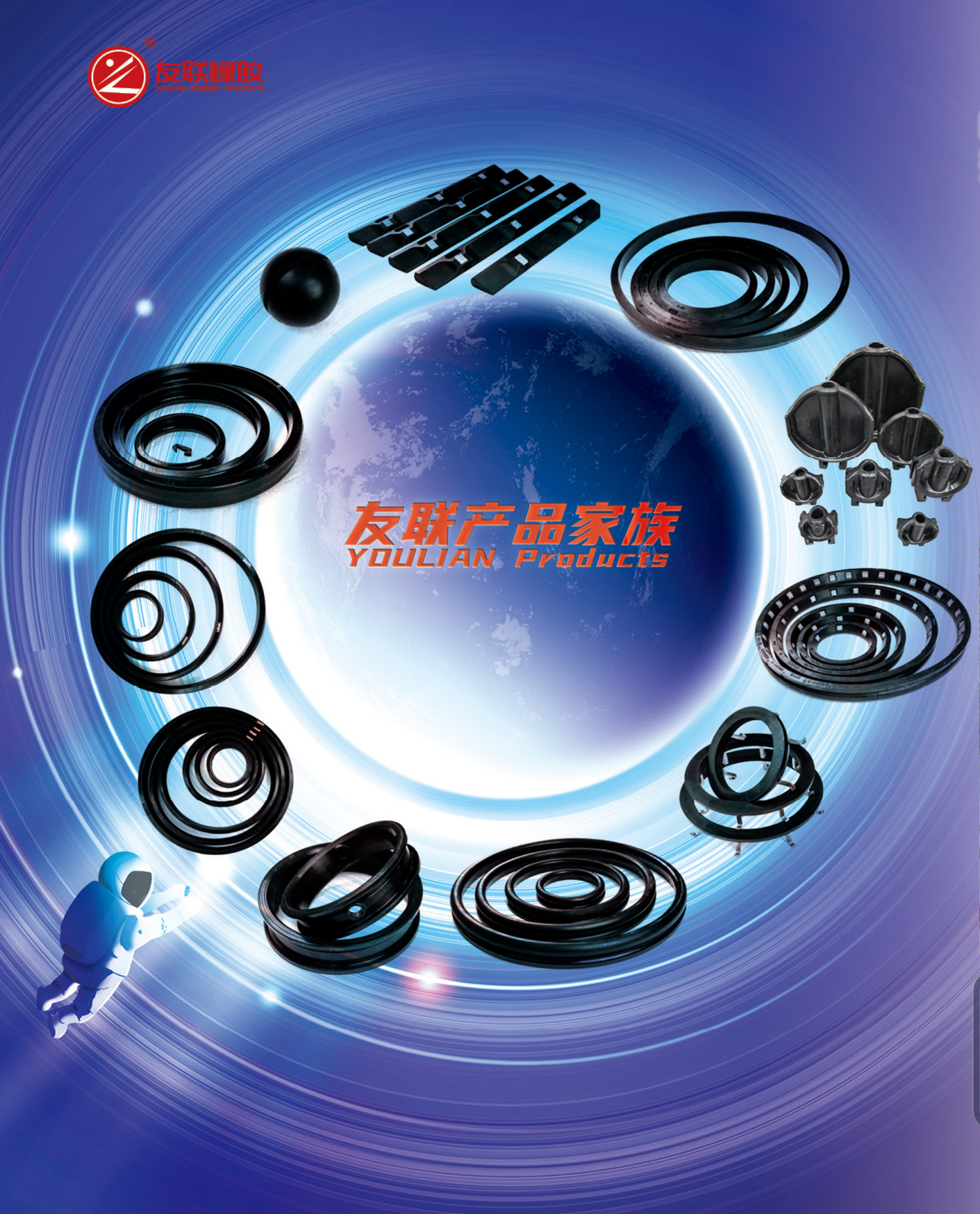
硫化车间



硫化车间



预成型区




# MARKET SHARE
# 拷心壹志，享誉市场

友联公司的产品在行业内得到规模化应用。产品远销欧美、南非、马来西亚等国家和地区，三十多年来畅销不衰。在美国市场，友联公司的产品已有近三十年的出口历史。在国内市场，友联公司被众多国家级大型企业指定为橡胶产品的唯一生产厂家。

Youlian's products are used on a large scale in the industry. The products are exported to Europe, America, South Africa, Malaysia and other countries and regions, and have been selling well for more than thirty years. In the American market, Youlian's products have been used for nearly thirty years. In the domestic market, Youlian has been appointed as the sole manufacturer of rubber products by many large national enterprises.

NSF®









美国UL认证

WRAS
APPROVED MATERIAL

中国卫生监督 CHINA NATIONAL HEALTH INSPECTION

# EXCELLENT PRODUCTS
# 惟精惟一，塑造精品

精益铸就精品。当原料进入工厂，一场品质的较量由此开始。橡胶原料及各种配和剂，从检验合格入库，到精准自动称量密炼，从密炼到开炼，从开炼到检验，环环相扣。每批次的胶料都要经过严格的检测，检测结果合格之后再进入全程智能监控的硫化环节。只有成品抽样检验合格，质检员对外观进行百分百检查之后，才能包装入库。对质量一丝不苟的把控，对流程层层入微的掌握，从细微入手，成就超群品质。

Keep on improving to make fine products. When raw materials enter the factory, a quality mechanism is initiated. Rubber raw materials and various compounding ingredients are processed under the following procedure: qualifying inspection, sending to storage, precise self-weighing and internal mixing, open refining, and testing. All the steps are linked with one another. Each batch of rubber material must pass a strict test and then enter the whole process of intelligent monitoring of the vulcanization process. The finished products can be packaged and put into storage only after the finished products pass the sampling inspection and their appearance is inspected 100% by the quality inspectors. The meticulous control of the quality, the subtle control of the process layer by layer, and the careful attention to every detail guaranteed our excellent achievement.

## 用于输水系统的材料的物理性能要求
## Physical performance requirements

| 性能 | 单位 | 试验方法 | 硬度级别要求 | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 40 | 50 | 60 | 70 | 80 | 90 |
| 公称硬度的允许公差 | IRHD | GB/T 6031 | ±5 | ±5 | ±5 | ±5 | ±5 | ±5 |
| 拉伸强度，最小 | MPa | GB/T 528 | 9 | 9 | 9 | 9 | 9 | 9 |
| 拉断伸长率，最小 | % | GB/T 528 | 400 | 375 | 300 | 200 | 125 | 100 |
| 压缩永久变形，最大 | | | | | | | | |
| 23℃,72 小时 | % | GB/T 7759.1 | 12 | 12 | 12 | 15 | 15 | 15 |
| 70℃,24 小时 | % | GB/T 7759.1 | 20 | 20 | 20 | 20 | 20 | 20 |
| —10℃,72 小时 | % | GB/T 7759.2 | 40 | 40 | 50 | 50 | 60 | 60 |
| 老化，70℃，7 天 | | GB/T 3512 | | | | | | |
| 硬度变化，最大 / 最小 | IRHD | GB/T 6031 | -5~+8 | -5~+8 | -5~+8 | -5~+8 | -5~+8 | -5~+8 |
| 拉伸强度变化率，最大 | % | GB/T 528 | -20 | -20 | -20 | -20 | -20 | -20 |
| 拉断伸长率变化率，最大 / 最小 | % | GB/T 528 | -30~+10 | -30~+10 | -30~+10 | -30~+10 | -40~+10 | -40~+10 |
| 应力松弛 | | GB/T 1685 | | | | | | |
| 23℃,7 天 | % | | 13 | 14 | 15 | 16 | 17 | 18 |
| 23℃，100 天 | % | | 19 | 20 | 22 | 23 | 25 | 26 |
| 在水中的体积变化，最大 70℃,7 天 | % | GB/T 1690 | -1~+8 | -1~+8 | -1~+8 | -1~+8 | -1~+8 | -1~+8 |
| 耐臭氧 | — | GB/T 7762 | 在未经放大的条件下观察，无裂纹。 | | | | | |
| 附加要求 | | | | | | | | |
| 压缩永久变形，最大—25℃，72 小时 | % | GB/T 7759.2 | 60 | 60 | 60 | 70 | 70 | 70 |
| 硬度变化，最大—25℃,168 小时 | IRHD | GB/T 12832 | +18 | +18 | +18 | – | – | – |
| 在油中的体积变化，70℃,72 小时 | | GB/T 1690 | | | | | | |
| 在 1 号标准油中 | % | | ±10 | ±10 | ±10 | ±10 | ±10 | ±10 |
| 在 3 号标准油中 | % | | -5~+50 | -5~+50 | -5~+50 | -5~+50 | -5~+50 | -5~+50 |
| 脆性温度，—25℃ | — | GB/T 1682 | 试样没有破坏 | | | | | |

注：T 型、K 型密封圈的硬度见附录 A。



## T 型接口密封圈
## T-type sealing gaskets

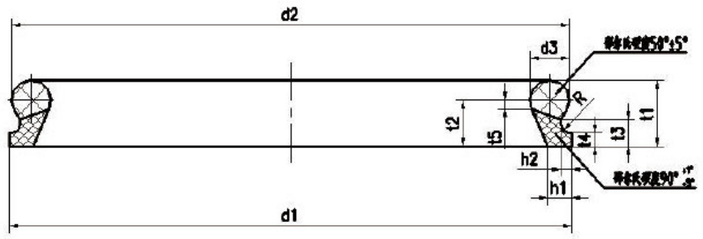
T 型接口密封圈为我国球墨铸铁管道承插口通用接口密封圈，由软胶和硬胶两部分组成。硬胶部分起到骨架支撑作用，软胶起到密封作用。这种连接方式属于软连接，允许管道之间存在一定的偏转角。我公司生产的 SBR T 型胶圈可以在 23℃下使用寿命达 52.6 年，EPDM T 型胶圈可以在 23℃下寿命达 105.5 年。

T-type joint sealing gaskets are general joint sealing gaskets for socket and spigot faucet of ductile iron pipes in China, which consists of soft rubber and hard rubber. The hard rubber part serves as a skeleton support, while the soft rubber serves as a sealing effect. This connection method belongs to soft connection an d allows for a certain deviation angle between pipes. The SBR T-type rubber gaskets produced by our company have a service life of 52.6 years at 23 ℃ , and the EPDM T-type rubber gaskets have a service life of 105.5 years at 23 ℃ .

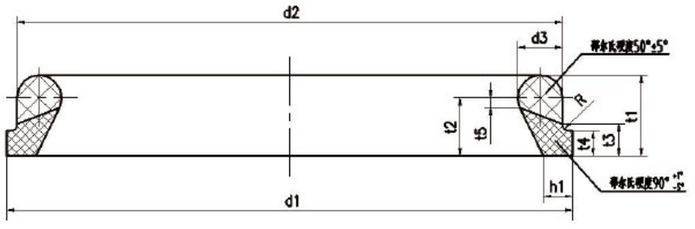


## 性能指标 Performance index




图A.1　DN80~1200T型 T 型接口密封圈型式




图A.2　DN1400~2000T型接口密封圈型式

## 尺寸表 Size table

| DN | d1 | | d2 | | d3 | | h1 | | h2 | | t1 | | DN | t2 | | t3 | | t4 | | t5 | | R | 压缩比 % | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 公称 | 公差 | 公称 | 公差 | 公称 | 公差 | 公称 | 公差 | 公称 | 公差 | 公称 | 公差 | | 公称 | 公差 | 公称 | 公差 | 公称 | 公差 | 公称 | 公差 | | 最小 | 最大 |
| 80 | 126 | ±1 | 123 | ±1 | 16 | | 10 | | 4.5 | | 26 | | 80 | 18 | | 10 | | 5 | | 3 | | 3 | 2.5 | 48.1 |
| 100 | 146 | | 144 | | 16 | | 10 | | 4.5 | | 26 | | 100 | 18 | | 10 | | 5 | | 3 | | 3.5 | 3.1 | 48.8 |
| 125 | 172 | | 170 | | 16 | | 10 | | 4.5 | | 26 | | 125 | 18 | | 10 | | 5 | | 3 | | 3.5 | 3.4 | 49.1 |
| 150 | 200 | | 198 | | 16 | | 10 | | 4.5 | | 26 | | 150 | 18 | | 10 | | 5 | +0.4 -0.2 | 3 | | 3.5 | 3.4 | 49.7 |
| 200 | 256 | ±1.5 | 254 | ±1.5 | 18 | | 11 | | 5 | | 30 | | 200 | 21 | | 12 | | 6 | | 4 | | 4 | 3.6 | 49.4 |
| 250 | 310 | | 308 | | 18 | | 11 | | 5 | | 32 | | 250 | 23 | | 12 | | 6 | | 4 | | 4 | 3.9 | 50.3 |
| 300 | 366 | | 364 | | 20 | | 12 | | 5.5 | | 34 | | 300 | 24 | | 14 | | 7 | | 4 | | 4.5 | 4.0 | 49.0 |
| 350 | 420 | ±2 | 418 | | 20 | | 12 | | 5.5 | | 34 | | 350 | 24 | | 14 | | 7 | | 4 | | 4.5 | 4.3 | 49.8 |
| 400 | 475 | | 473 | ±2 | 22.3 | | 13 | ±0.3 | 6 | ±0.5 | 38 | | 400 | 26.85 | | 16 | | 8 | | 5 | | 5 | 6.1 | 49.3 |
| 450 | 528 | | 526 | | 23 | | 13 | | 6 | | 38 | | 450 | 26.5 | | 16 | | 8 | | 5 | | 5 | 6.3 | 49.3 |
| 500 | 583 | ±3 | 581 | ±3 | 24.3 | | 14 | | 6.5 | | 42 | | 500 | 29.85 | | 18 | | 9 | | 6 | | 5.5 | 6.4 | 49.2 |
| 600 | 692 | | 690 | | 26.5 | | 15 | | 7 | | 46 | ±1 | 600 | 32.75 | ±1 | 20 | ±1 | 10 | | 7 | ±1 | 6 | 7.7 | 49.4 |
| 700 | 809 | ±3.5 | 803 | ±3.5 | 33.5 | | 20 | | 10 | | 55 | | 700 | 38.25 | | 24 | | 16 | | 8 | | 7 | 11.6 | 48.8 |
| 800 | 919 | | 913 | | 35.5 | | 21 | | 11 | | 60 | | 800 | 42.25 | | 26 | | 16 | | 9 | | 8 | 11.3 | 48.5 |
| 900 | 1026 | ±4 | 1020 | ±4 | 37.5 | | 22 | | 12 | | 65 | | 900 | 46.25 | | 28 | | 18 | | 10 | | 9 | 11.2 | 48.4 |
| 1000 | 1133 | ±4 | 1127 | ±4 | 39.5 | | 23 | | 12 | | 70 | | 1000 | 50.25 | | 30 | | 18 | +0.5 -0.3 | 10 | | 9 | 10.9 | 47.8 |
| 1100 | 1242 | | 1235 | | 41.5 | | 25 | | 13.5 | | 74 | | 1100 | 53.75 | | 32 | | 19 | | 10 | | 10 | 12.2 | 49.6 |
| 1200 | 1355 | ±5 | 1345 | ±5 | 43.5 | | 27 | | 13.5 | | 78 | | 1200 | 56.35 | | 34 | | 20 | | 11 | | 10 | 12.6 | 48.3 |
| 1400 | 1566 | | 1546 | | 41.5 | ±0.3 | 27 | ±0.4 | — | — | 80 | | 1400 | 59.5 | | 28 | | 23 | | 22 | | 5 | 14.5 | 53 |
| 1500 注 | 1674/1685 | | 1654/1665 | | 43 | | 28/30 | | — | — | 80/74 | | 1500 | 58.5 | | 30 | | 24 | | 20 | | 5 | 11.6 | 53.5 |
| 1600 注 | 1782/1799 | | 1762/1779 | | 43 | | 29/32.5 | | — | — | 80/70 | | 1600 | 58.5 | | 32 | | 25 | | 20 | | 5 | 11.6 | 54.7 |
| 1800 | 2011 | | 1987 | | 45 | | 33 | | — | — | 90 | | 1800 | 67.5 | | 40 | | 30 | | 22.5 | | 5 | 12.0 | 54.4 |
| 2000 | 2226 | | 2200 | | 49 | | 35 | | — | — | 105 | | 2000 | 80.85 | | 45 | | 32 | | 30.5 | | 5 | 13.3 | 56.1 |

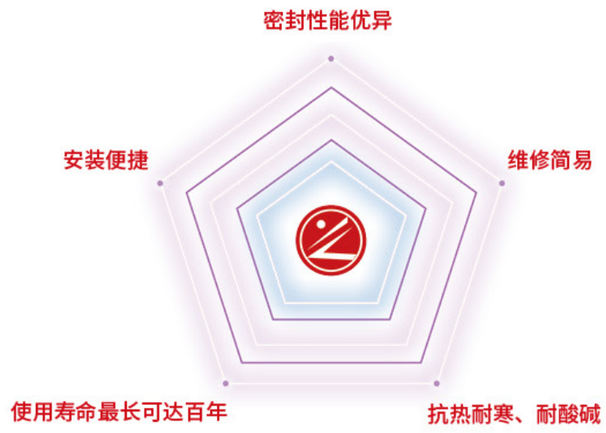
## 热力管道胶圈
## Thermal pipeline rubber gaskets

为响应国家“碳达峰、碳中和”目标，充分利用电厂余热，冬季为居民提供供暖，我公司顺应形势发展，研发的胶圈。结构上有两个大小不一样的球头，形成双密封效果。配方经过300余次试验，历经5年时间研发而成，在110℃工况条件下，使用寿命达121.2年。使用初期又经过了5年的小型工程试验，反应良好。

This product responds to the national goal of "carbon peaking and carbon neutrality", makes full use of the waste heat of power plants, and provides heating for residents in winter. Our company adapts to the development of the situation and develops such rubber gaskets. Structurally, there are two ball heads of different sizes, forming a double-sealing effect. The formula has undergone over 300 trials and has been developed over a period of 5 years. Under the working condition of 110 °C , their service life reaches 121.2 years. After 5 years of small-scale engineering testing in the early stages of use, the response was good.



## 性能指标 Performance index




国家橡胶密封制品质量监督检验中心
西北橡胶塑料研究设计院有限公司
橡胶密封制品检验实验室

**检 验 报 告**

№ WT2019125　　共4页 第1页

| | | | |
|---|---|---|---|
| 产品名称 | 热力管道专用耐热橡胶（硬度50） | 商标 | / |
| 型号规格 | / | 等级 | / |
| 任务来源 | 委托检验合同书 | 检验类别 | 委托检验 |
| 委检单位 | 河北友联橡胶制品有限公司 | 样品编号 | № WT2019125 |
| 委检单位地址 | 河北省枣强县富强南路198号 | 邮政编码 | / |
| 联系人 | 苏风森 | 电话 | 0318-8238239 |
| 生产单位 | 河北友联橡胶制品有限公司 | | |
| 产品相关信息 | 工程名称 / | 抽样地点 | / |
| | 建设单位 / | 代表数量 | / |
| | 监理单位 / | 监理人 | / |
| | 施工单位 / | 见证人 | / |
| 样品数量 | Φ13×6.3mm 60个 | 到样日期 | 2019/7/17 |
| 检验项目 | 老化寿命预测 | | |
| 检验依据 | GB/T 27800-2011《静密封橡胶制品使用寿命预测方法》 | | |
| 检验起讫日期 | 2019年07月22日～2020年10月08日 | | |
| 检验结论 | 显著性水平α为0.05时，按照临界值0.4计算，110℃热水中的连续使用寿命约为121.2年。同理，按照临界值0.33计算，150℃热水中的连续使用寿命为27.9年。 | | |
| 备 注 | | | |

批准：　审核：　编制（主检）：贺建超



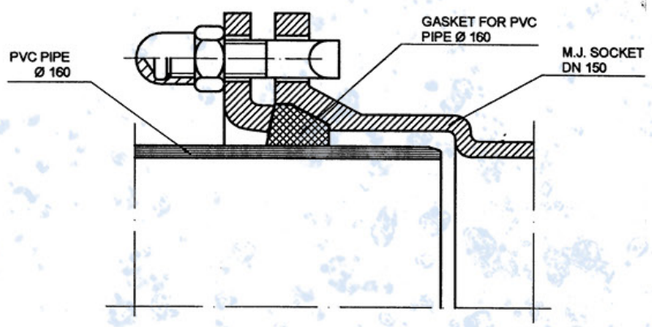
# MJ 胶圈
## M.J. rubber gaskets

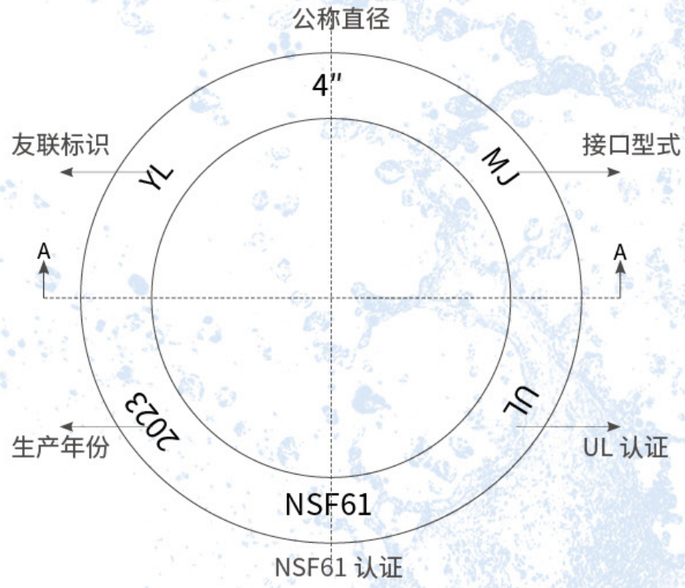


M.J. 胶圈是美国球墨铸铁管道通用接口密封圈，其截面为28°斜角，采用压兰连接。当密封不良时，紧一下压兰螺丝就可以密封好。其使用年限可以达到 50 年以上。在挖出的废旧管道中，胶圈依旧保持着良好性能。

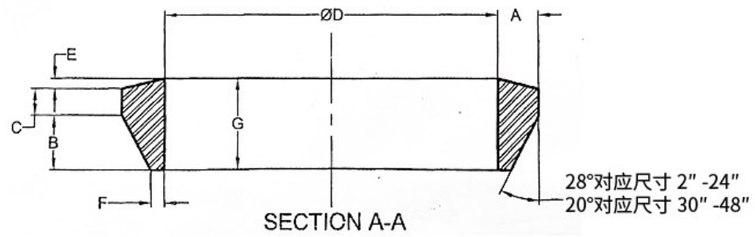
M.J. rubber gaskets are universal joint sealing gaskets for ductile iron pipes in the United States, with a cross-section of 28 ° bevel, and are connected by flange adapters. When the sealing is poor, tightening the flange screw can seal it well. Their service life can reach over 50 years. In the excavated waste pipeline, the rubber gaskets still maintain good performance.

## 安装示意图 Installation diagram



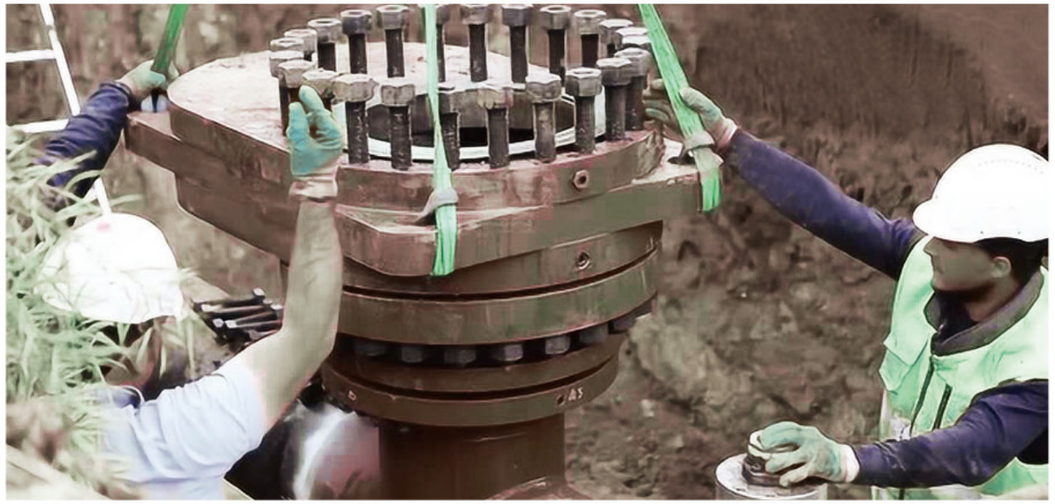




## 尺寸示意图 Dimensional diagram




## 尺寸表 Size table

| 管尺寸 | 管外径 | A±0.01 | B | C（Ref.） | ΦD±1% | E | F±0.01 | G±0.02 |
|---|---|---|---|---|---|---|---|---|
| 2″ | 2.50 | 0.48 | 0.62 | 0.31 | 2.48 | 0.12 | 0.15 | 1.05 |
| 3″ | 3.96 | 0.48 | 0.62 | 0.31 | 3.86 | 0.12 | 0.15 | 1.05 |
| 4″ | 4.80 | 0.62 | 0.75 | 0.31 | 4.68 | 0.16 | 0.22 | 1.22 |
| 6″ | 6.90 | 0.62 | 0.75 | 0.31 | 6.73 | 0.16 | 0.22 | 1.22 |
| 8″ | 9.05 | 0.62 | 0.75 | 0.31 | 8.85 | 0.16 | 0.22 | 1.22 |
| 10″ | 11.10 | 0.62 | 0.75 | 0.31 | 10.87 | 0.16 | 0.22 | 1.22 |
| 12″ | 13.20 | 0.62 | 0.75 | 0.31 | 12.95 | 0.16 | 0.22 | 1.22 |
| 14″ | 15.30 | 0.62 | 0.75 | 0.31 | 14.99 | 0.16 | 0.22 | 1.22 |
| 16″ | 17.40 | 0.62 | 0.75 | 0.31 | 17.07 | 0.16 | 0.22 | 1.22 |
| 18″ | 19.50 | 0.62 | 0.75 | 0.31 | 19.13 | 0.16 | 0.22 | 1.22 |
| 20″ | 21.60 | 0.62 | 0.75 | 0.31 | 21.20 | 0.16 | 0.22 | 1.22 |
| 24″ | 25.80 | 0.62 | 0.75 | 0.31 | 25.34 | 0.16 | 0.22 | 1.22 |
| 30″ | 32.00 | 0.73 | 1.00 | 0.38 | 31.47 | 0.16 | 0.37 | 1.54 |
| 36″ | 38.30 | 0.73 | 1.00 | 0.38 | 37.67 | 0.16 | 0.37 | 1.54 |
| 42″ | 44.50 | 0.73 | 1.00 | 0.38 | 43.78 | 0.16 | 0.37 | 1.54 |
| 48″ | 50.80 | 0.73 | 1.00 | 0.38 | 49.98 | 0.16 | 0.37 | 1.54 |



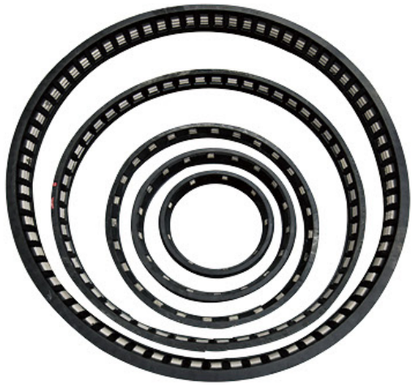
## T 型止脱胶圈
## T-type anti-detachment rubber gaskets

T 型止脱胶圈是含有埋入式不锈钢牙齿的胶圈，适用于常规标准压力下的管子和管件。在受压情况下，这种胶圈能够产生压力导致牙齿咬紧插口从而防止接口分离。T 型止脱胶圈能使管道改向时无需使用水泥支礅，这使得它特别适用于那些安装困难或安装费用昂贵甚至不可能安装的不稳定的地层和转弯。

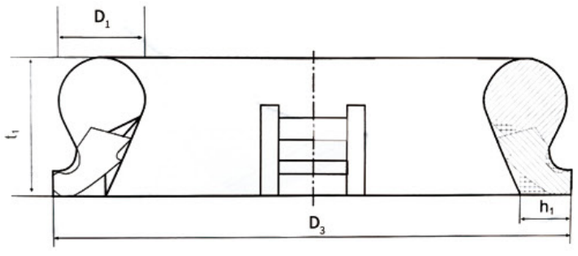
适用于球墨铸铁管的柔性连接，达到密封及防滑止脱作用。

The T-type anti-detachment rubber gasket is a rubber gasket containing embedded stainless steel teeth, suitable for pipes and fittings under conventional standard pressure. Under pressure, this type of rubber gasket can generate pressure, causing teeth to bite tightly into the socket, thereby preventing interface separation. The T-type anti-detachment rubber gasket can make it suitable for unstable stratum and turns that are difficult to install, expensive or even impossible to install, without the need for cement supports when changing the direction of pipelines.

It is suitable for the flexible connection of ductile iron pipes to achieve sealing and anti-detachment functions.








T 型防脱胶圈尺寸示意图

| 公称直径 | $D_3$ | $D_1$ | h1 | t1 | 重量（kg） | 防滑齿块（个） |
|---|---|---|---|---|---|---|
| DN100 | 16 | 146 | 10 | 26 | 0.165 | 6 |
| DN150 | 16 | 200 | 10 | 26 | 0.235 | 8 |
| DN200 | 18 | 256 | 11 | 30 | 0.395 | 10 |
| DN250 | 18 | 310 | 11 | 32 | 0.530 | 20 |
| DN300 | 20 | 366 | 12 | 34 | 0.720 | 18 |
| DN350 | 20 | 420 | 12 | 34 | 0.850 | 23 |
| DN400 | 22 | 475 | 13 | 38 | 1.130 | 25 |
| DN500 | 24 | 583 | 14 | 42 | 1.700 | 34 |
| DN600 | 26 | 692 | 15 | 46 | 2.240 | 46 |

## CORPORATE CULTURE
## 文载精神，化而润企

**企业精神**

忠诚厚德，匠心求精，责任敬业。

**企业价值观**

为社会创造财富，为客户创造价值。

**企业愿景**

成为矢志创新的给排水橡胶行业的学习型企业，致力于做百年企业。



## COOPERATION AND WIN-WIN SITUATION
# 合作共赢，德润八方

朋友联天下，共赢创辉煌。30年来，友联公司先后与国内外多家公司建立合作关系，实现了长期的互利共赢。自1994年起，友联就走出国门，同以美国为主的全球诸多知名企业及品牌建立了长期紧密的合作伙伴关系。以精湛的技术，卓越的品质，丰富的经验，创造了30多年无一例质量投诉的行业典范形象。赢得诸多国内外客户的好评及青睐。在国内和国际市场上树立了友联橡胶品牌的美誉。

Unite friends all over the world, and win-to create a prosperous future. Over the past 30 years, Youlian has established cooperative relationships with many companies at home and abroad, achieving long-term mutual benefits and win-win results. Since 1994, Youlian has gone abroad and established long-term close cooperative partnerships with many well-known global enterprises and brands, mainly in the United States. With exquisite technology, excellent quality and rich experience, Youlian has created an industry model of no quality complaint cases in more than 30 years. The company has won the compliments and favor of many customers and established a good reputation of Youlian Rubber Brand in the domestic and international markets.









# BRIGHT FUTURE
# 奋楫扬帆，百年友联

大道汜兮，一种发现与创造之旅！大业愿景，一幅壮阔的魅力蓝图！天高地远，志在四方。千里之行，始于足下。心阔志远，在高瞻远瞩之后琢铭；厚积薄发，在和谐与有序中流动。创业的远见，在商海里凝聚，在路途上勃发。造百年品质，创百年友联。

The DAO is widely spread. There is a great journey of discovery and creation. The future vision of the great undertaking is magnificent and charming. The sky is high and far, and the person is ambitious. A journey of a thousand miles begins with a single step. With a broad heart and lofty aspirations, one can be recognized after having a broad vision. People can be able to accomplish something big when they are well-grounded in their areas of specialty. The foresight of entrepreneurship condenses in the business world and thrives on the road of progressing. We will build a century-old quality and create a century-old Youlian.





百年友联
品质领先