

JNFLEX (CHANGZHOU) CO., LTD.

Our manufacturing sites are Certified
ISO9001 and IATF16949.

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JNFLEX (CHANGZHOU) CO., LTD.

常州市江南波纹管有限公司

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AUTOMOTIVE PRODUCT MANUAL

汽车类 | 产品手册

WWW.JNFLEX.COM
WWW.JNFLEX.CN

JNFLEX CHANGZHOU CO., LTD

常州市江南波纹管有限公司

CONTENTS 目 录



To become the most valuable enterprise in flexible connection and protection solutions.

JNFLEX (CHANGZHOU) CO., LTD established in 1995 and located in Changzhou City, Jiangsu province, is a high-tech enterprise dedicated to providing customers with flexible connection and protection products and solutions. We specialize in the design, development, production, and technical service of various corrugated duct, flexible ducts and tubes, stainless bellows, and kinds of plastic corrugated hoses.

Since 1995, JNFLEX has grown into a large-scale enterprise with over 120 employees, more than 20% of whom are R&D personnel, having obtained ISO9001 and IATF16949 certifications. Our products serve a variety of industries, including construction and infrastructure, automotive and marine, high-speed trains, steel metallurgy, environmental protection, and new energy industry etc. We have established long-term collaborations with Fortune 500 companies both domestically and internationally. Our sales network spans more than twenty provinces, municipalities, and autonomous regions across China, and we exported to Europe, North America, Southeast Asia, Australia, South America, and Africa for many years.

"Customer Requirements Are Our Responsibility," we're dedicated to providing the tailor-made solution for each individual client, helping them succeed in their business, ensuring that our customers gain a competitive edge through attention to detail. "Stay hungry. Stay foolish." JNFLEX is committed to growing with you and becoming a reliable partner on your path to success.

成为“柔性连接与防护”最具价值的公司

常州市江南波纹管有限公司成立于1995年, 公司位于江苏常州, 是一家集设计开发、生产制造、技术服务为一体的专业生产各种波纹软管、伸缩软管、金属软管、塑料波纹软管等管路连接和保护类产品, 致力于为顾客提供柔性连接和柔性保护类产品解决方案的高新技术企业。公司自创立以来, 已经发展成拥有120多名员工, 建筑面积30000平米的规模化企业, 其中研发人员占比20%以上, 公司高度重视加强品质保证和提升管理水平, 已通过ISO9001、IATF16949质量管理体系认证, 为建筑及基础设施、汽车船舶、高速列车、钢铁冶金、环保新能源等多个行业提供优质产品, 并与国内外500强企业建立长期合作关系。我们销售网络遍布中国二十多个省市自治区直辖市, 并出口到欧美东南亚澳洲南美非洲等国家和地区。

江南波纹管秉承“顾客的要求就是我们的责任”的经营理念, 始终追求更高的品质和致力于为客户提供最佳的个性化解决方案, 创造价值, 降低成本, 让客户赢在细节之上。Stay.hungry.Stay.foolish江南愿意与您共同发展, 成为您成功道路上忠诚的合作伙伴。

防护 PROTECTION

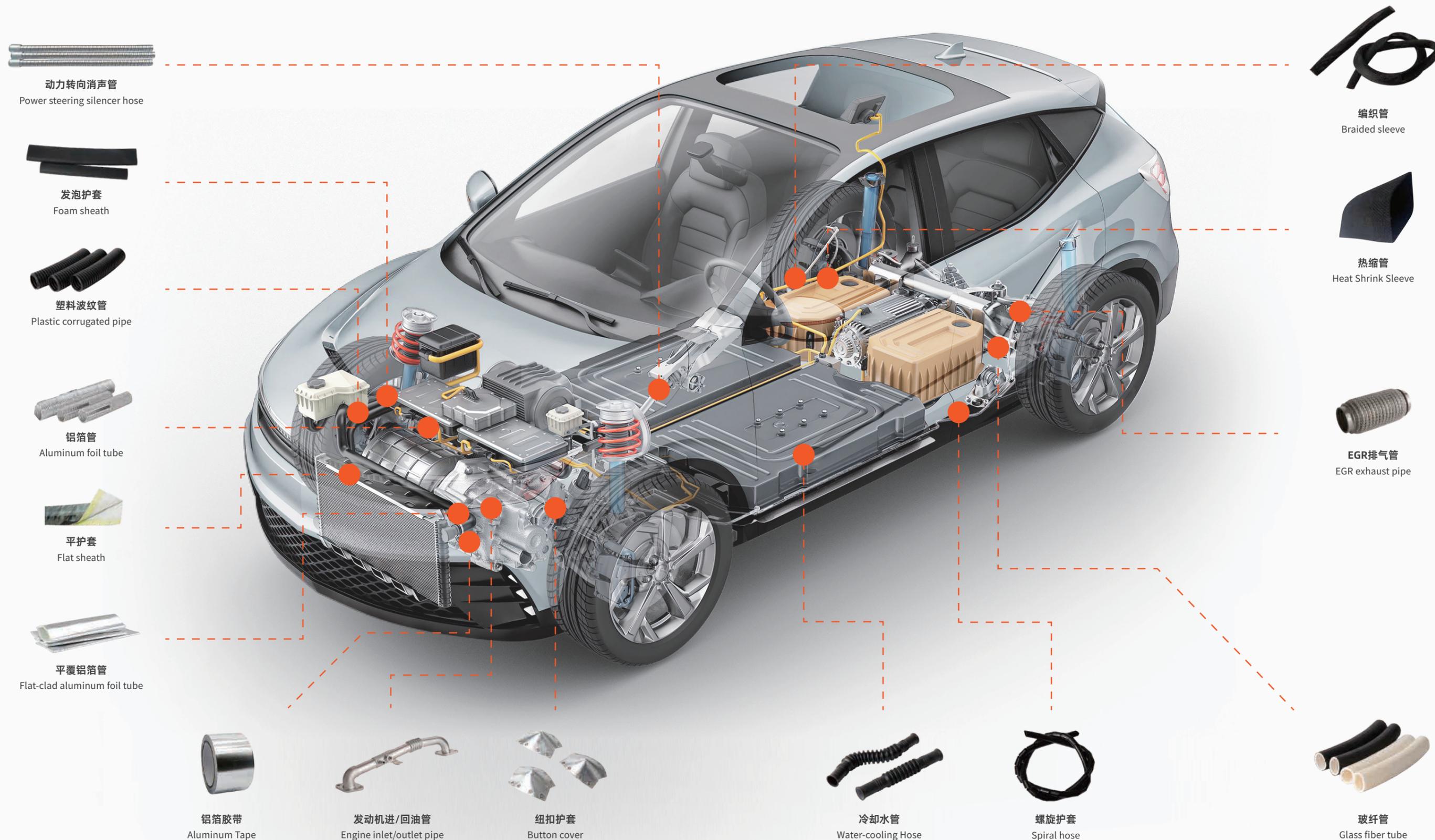
铝箔管	05
Aluminum foil tube	
胶带	08
Adhesive tape	
平覆铝箔管	09
Flat-clad aluminum foil tube	
平护套	11
Flat sheath	
塑料波纹管	13
Plastic corrugated pipe	
自卷纺织套管	15
Self winding textile sleeve	
热缩管	17
Heat shrink sleeve	
编织管	19
Braided sleeve	
发泡护套	21
Foam sheath	
纽扣护套	23
Button cover	
缝口护套	24
Seam sheath	

连接 CONNECTION

塑料伸缩管	25
Telescopic tube	
尼龙管	27
Nylon tube	
不锈钢波纹管	29
Stainless steel bellows	
驻车加热器排气管(不锈钢缠绕管)	31
Heater exhaust pipe	
动力转向消声管(不锈钢消声管)	33
Power steering silencer hose	

AUTOMOTIVE INDUSTRY

汽车行业



PROTECTION / 防护

ALUMINUM FOIL TUBE
铝箔管

产品介绍 Product Introduction

绝缘铝箔管由铝箔和包裹玻璃纤维布复合而成,用于冷热气隔离,通风,绝缘,运输和电缆线束的汽车保护系统。

Insulated aluminum foil tube is composed of aluminum foil and wrapped glass fiber cloth, and is used for automotive protection systems for cold and hot gas isolation, ventilation, insulation, transportation, and cable harnesses.



自由弯曲
Free bending



重量轻
Light weight



柔韧性好
Good flexibility



抗压力强
Strong resistance to pressure



安装简单
Easy installation



基本用途 Basic application

管道及软管、空调管道、油压/燃油管、控制电缆、发动机舱内的线束、混合动力车的隔热&保护

Pipelines and hoses, air conditioning ducts, oil/fuel pipes, control cables, wiring harnesses in the engine compartment, insulation&protection for hybrid vehicles

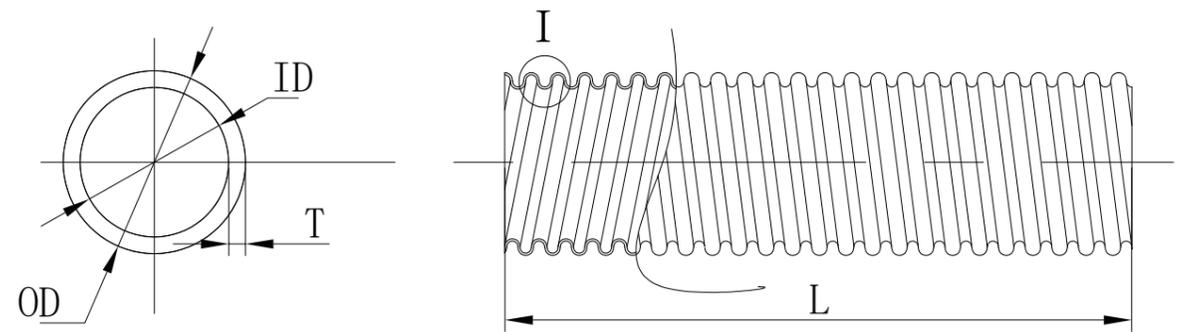
实验测试 Experimental testing

- 最小弯曲半径 Minimum bending radius
- 抗破裂试验 Anti rupture test
- 伸缩量 Expansion and contraction amount
- 阻燃性能 Flame retardant performance
- 弯曲性能 Bending performance
- 径向抗压力 Radial resistance pressure
- 隔热性能 Thermal insulation performance
- ELV ELV

性能测试 Performance test

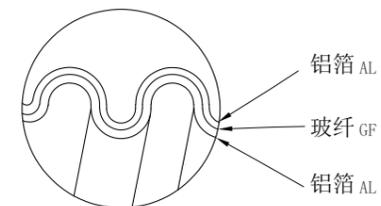
测试项目 Test Item	测试条件 Test Condition	测试项目 Test Item	测试条件 Test Condition
耐高温 High temperature resistance	200°C	弯曲性 Flexibility	常温下R=1.5D, 弯曲180°无任何裂纹 R=1.5D at room temperature, without any cracks when bent 180°
耐低温 Low temperature resistance	-40°C	耐水 Water resistance	置于水中300H, 无脱层 Placed in water for 300 hours without delamination
抗压 Compression resistance	150N/100mm以上 Above 150N/100mm	耐油 Oil resistance	置于机油中300H, 无脱层 Placed in engine oil for 300 hours without delamination
抗破裂性 Fracture resistance	以最小弯曲半径90°方向来回弯曲≥15次, 样管无破裂 Bend the sample tube back and forth at least 15 times in the direction of the minimum bending radius of 90°, without any rupture		
最小弯曲半径 Minimum bending radius	R=D	阻燃 Flame retardant	
弯曲性能 Bending performance	<5%	耐磨 Wear-resisting	
伸缩量 Scalability	20%	耐腐蚀 Corrosion resistance	

产品规格 Product Specification (mm)



I 放大 Scale
5 : 1

零件结构及材料(从外之内)
Structure & Material



铝箔管产品规格 Aluminum foil tube product specification (mm)

内径 ID (mm)	波高 Wave height	工艺结构 Process structure	波纹数 Number of Corrugations
5	1.1	AG	>400C/M
10	1.2	AGA / AGAGA / AGG / AG	>400C/M
11	*	GAG / AGA / AGAGA / AG	>400C/M
12	1.2	AGA / AG / AAG	>400C/M
13	1.2	AG / AGA / AAG / GAG / AGAGA / AGG	>400C/M
14	1.5	GAAAG / AGAGA / GAG / AGA / AAG / AGG	>400C/M
15	1.5	AGG / AGA / AAG / AGA / GAA	>400C/M
16	1.5	AGA / GAG / AGG / AAG	>400C/M
17	1.4	AGA / AAG	>400C/M
18	*	AGA / AAG / AGAGA	>400C/M
19	1.5	AAG / AGA	>400C/M
20	1.4	AGA / KPA / AAG / AGG / KPA / AGAGA	>400C/M
21	1.6	AGA / AAG / GAG / AGG / KPA	>400C/M
22	1.5	AGA / AAG / AGG	>400C/M
23	1.8	AGA / AAG / AGG / KPA	>400C/M
24	1.6	KPA / AGA / GAG / AAG / AAA	>400C/M
25	1.8	AGA / KPA / AAG / GAG / KPA / AAA	>400C/M
26	1.8	AGA / AAG / AGG	>400C/M
27	1.6	AGA / AAG	>400C/M
28	1.8	AGA / AGA / AAG / GAG	>400C/M
29	1.8	AGA	>400C/M
30	1.8	AGA / KPA / AAG / APG / PPA / AGG / AAA	>400C/M
32	1.8	AAG / AGA	>400C/M
35	1.8	AGA / KPA / AAG / AGG	>400C/M
36	1.8	AGA / AAG	>400C/M
37	1.8	AGA / APA	>400C/M
38	1.8	AGA / AAG	>400C/M
39	*	AAG	>400C/M
40	1.8	AGA / AGA / KPA	>400C/M
42	2.2	AAG / KPA / AGA	>400C/M
45	1.8	AGA	>400C/M
50	1.8	AGA / APA / AAA / PAPA / KPA	>400C/M
51	2	PAP / KAA	>400C/M
55	2.2	AGA / KPA	>400C/M
60	1.8	KPA / APA / AAG / AGA / PAA / PAP / PAPA / PPA / PA	>400C/M
61	*	KPA	>400C/M
64	2.0	AAG / KPA / PAP / PPA	>400C/M
70	2.0	AG / KPA / AGA	>400C/M
75	2.3	APA / PAP / AGA / KPA	>400C/M
76	*	KPA / AGA	>400C/M
80	2.0	AG / KPA / AGA	>400C/M
83	2.0	KPA	>400C/M
90	1.2	AG / KPA / AGA	>400C/M
100	3	KPA / AGA	>400C/M

* 未标注的尺寸接受客户定制
Customization is acceptable for unmarked dimensions

PROTECTION / 防护

ADHESIVE TAPE 胶带

产品介绍 Product Introduction

适用于汽车系统中各个部位的隔热、固定、粘接等。

Suitable for insulation, fixation, bonding, etc. in various parts of automotive systems.



可定制设计
Customizable design



优良的耐热性
Excellent heat resistance



铝箔PET
Aluminum foil PET

铝箔玻纤
Aluminum foil glass fiber

铝箔胶带
Aluminum Tape

基本用途 Basic application

隔热、固定、粘接
Insulation, fixation, and bonding

实验测试 Experimental testing

- 隔热性能 Thermal insulation performance
- 粘接强度 Adhesion
- 抗拉强度 Tensile strength

产品特征 Product feature

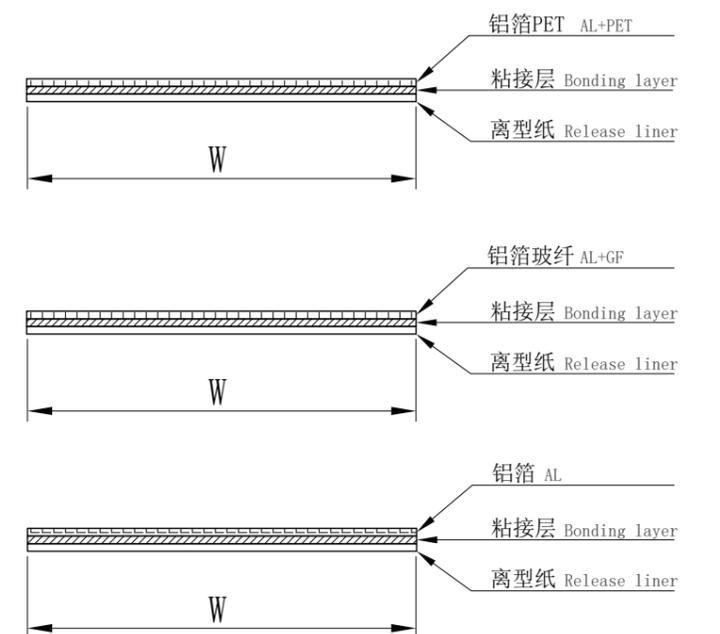
耐水性(室温)
Water resistance (room temperature)

耐油性(室温)
Oil resistance (room temperature)

耐温(高温&低温)
Temperature resistance (high temperature&low temperature)

产品规格 Product Specification (mm)

规格 Specifications (mm)	材料 Material
长度可定制 Length customized	铝箔 AL 铝箔PET AL+PET 铝箔玻纤 AL+GF



PROTECTION / 防护

FLAT-CLAD ALUMINUM FOIL TUBE 平覆铝箔管

产品介绍 Product Introduction

主要应用在汽车行业,平覆铝管是分内外两层,内层由玻璃纤维纱编织而成,外层覆盖一层铝箔;平覆铝管无缝制线,而且套管端部采用开放式。平覆铝管可以耐高温,厚度较小,可以安装在狭窄区域,而且安装后表面光滑。可广泛用于保护各种零件,并为需要反射绝缘保护的塑料管道、软管、发动机线束及其他重要零件提供全面保护。

Mainly used in the automotive industry, the flat-coated aluminum tube is divided into two layers, the inner layer is braided by glass fiber yarn, and the outer layer is covered with a layer of aluminum foil; The flat coated aluminum pipe has no sewing thread, and the sleeve end is open. Flat-coated aluminum tubes can withstand high temperatures, have small thickness, can be installed in narrow areas, and have a smooth surface after installation. It can be used to protect a wide range of parts and provide comprehensive protection for plastic pipes, hoses, engine wiring harnesses and other important parts that require reflective insulation protection.



优良的耐热性
Excellent heat resistance



无缝制线套管
Seamless sleeve



卓越的防辐射热保护性能
Excellent radiation heat protection performance



优良的反射绝缘性能
Excellent reflective insulation performance



优良的耐化学性
Excellent chemical resistance



良好的遮光
Good shading



基本用途 Basic application

管道及软管、空调管道、油压/燃油管、控制电缆、发动机舱内的线束、混合动力车的隔热&保护

Pipelines and hoses, air conditioning ducts, oil/fuel pipes, control cables, wiring harnesses in the engine compartment, insulation&protection for hybrid vehicles

实验测试 Experimental testing

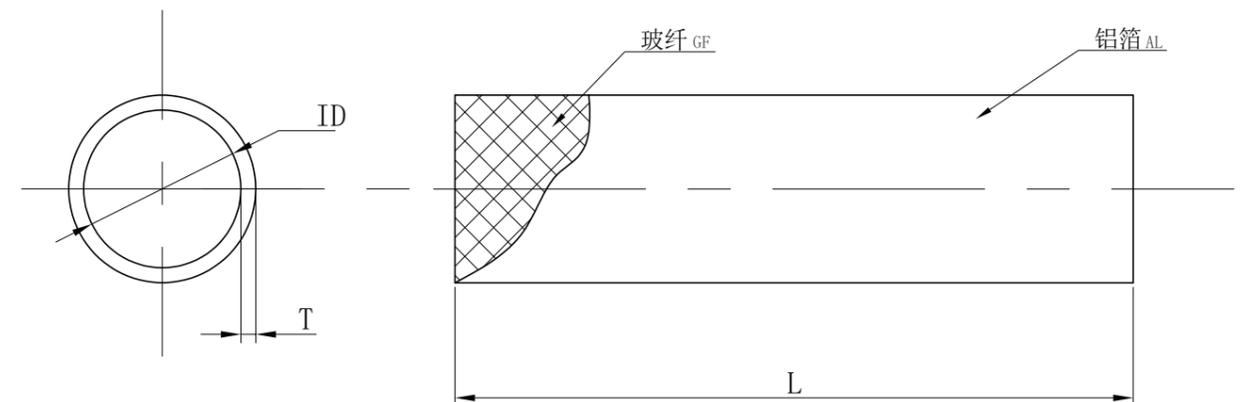
- ELV
ELV
- 阻燃性能
Flame retardant performance
- 隔热性能
Thermal insulation performance

性能测试 Performance test

测试项目 Test Item	测试条件 Test Condition	测试项目 Test Item	测试项目 Test Item
耐高温 High temperature resistance	200°C	阻燃 Flame retardant	耐腐蚀 Corrosion resistance
耐低温 Low temperature resistance	-40°C	耐磨损 Wear resistance	

产品规格 Product Specification (mm)

内径 ID (mm)	壁厚 Wall thickness (mm)	内径 ID (mm)	壁厚 Wall thickness (mm)
5	0.5	21	0.5
7	0.5	22	0.5
8	0.5	23	0.5
9	0.5	24	0.5
10	0.5	25	0.5
12	0.5	26	0.5
14	0.5	28	0.5
15	0.5	30	0.5
16	0.5	32	0.5
18	0.5	35	0.5
20	0.5		



PROTECTION / 防护

FLAT SHEATH 平护套

产品介绍 Product Introduction

主要应用在汽车行业。一种片状带单边或双边胶带的铝复合其他材料的产品，为管道和软管、引擎线束和其他需要抗热辐射保护的部件，提供最大程度上的保护。

Predominantly utilized in automotive applications, this aluminum composite strip with single-sided or double-sided adhesive backing provides optimal protection for conduits, hoses, engine wiring harnesses, and components requiring thermal radiation shielding. The laminated structure integrates aluminum with engineered substrates, enabling conformal coverage in constrained spaces while maintaining high-temperature resistance and surface



不需要拆卸管路的情况下，
在需要隔热保护的部位直接安装
Direct field-installable thermal protection
application without pipeline disassembly



低粗糙度
Low roughness



对流体和化学成分有良好抗性
Good resistance to fluids
and chemical composition

基本用途 Basic application

管道及软管、空调管道、油压/燃油管、控制电缆、发动机舱内的线束、混合动力车的隔热&保护
Pipelines and hoses, air conditioning ducts, oil/fuel pipes, control cables, wiring harnesses in the engine compartment, insulation&protection for hybrid vehicles

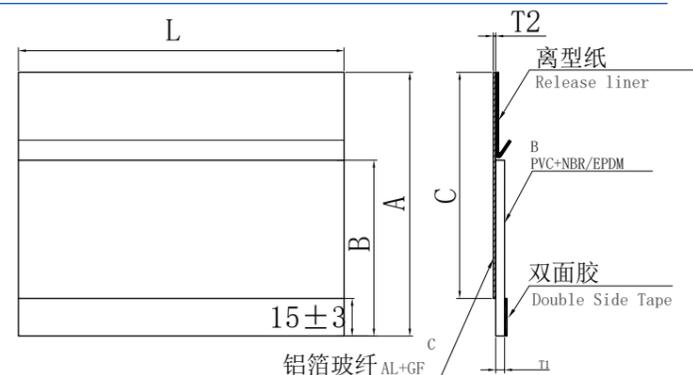
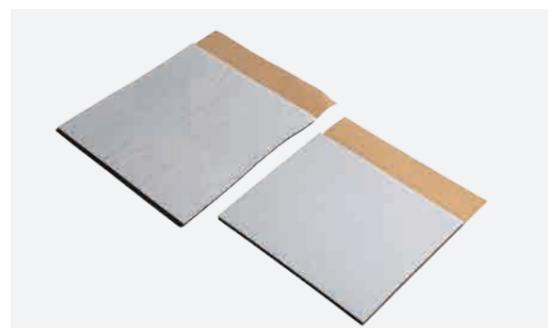
实验测试 Experimental testing

- ELV
- 阻燃性能
Flame retardant performance
- 隔热性能
Thermal insulation performance

性能测试 Performance test

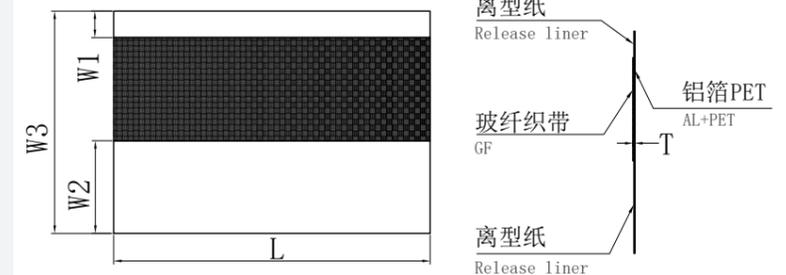
测试项目 Test Item	测试条件 Test Condition	测试项目 Test Item	测试项目 Test Item
耐高温 High temperature resistance	200°C	阻燃 Flame retardant	耐腐蚀 Corrosion resistance
耐低温 Low temperature resistance	-40°C	耐磨损 Wear resistance	

型号一·产品规格 Model 1 · Product Specification (mm)



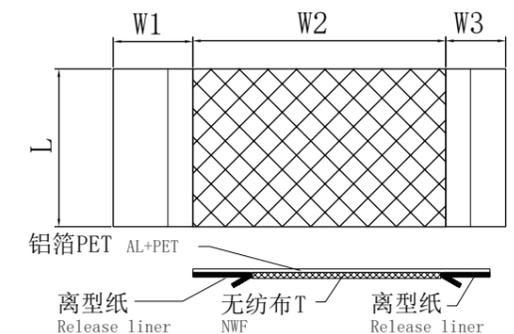
类型 Type	规格 Specification (mm)	厚度 Thickness (mm)	类型 Type	规格 Specification (mm)	厚度 Thickness (mm)
EPDM+铝箔玻纤 EPDM+AL+GF	100*165	3/5	PVC+铝箔玻纤 PVC+AL+GF	70*90	4/5
EPDM+铝箔玻纤 EPDM+AL+GF	94*150	3/5	PVC+铝箔玻纤 PVC+AL+GF	82*105	4/5
PVC+铝箔玻纤 PVC+AL+GF	303*348	4	PVC+铝箔玻纤 PVC+AL+GF	90*115	4/5
PVC+铝箔玻纤 PVC+AL+GF	135*170	4	PVC+铝箔玻纤 PVC+AL+GF	105*130	4/5
PVC+铝箔玻纤 PVC+AL+GF	166*211	6	PVC+铝箔玻纤 PVC+AL+GF	100*120	4/5
PVC+铝箔玻纤 PVC+AL+GF	47*70	4/5	PVC+铝箔玻纤 PVC+AL+GF	60*80	4/5

型号二·产品规格 Model 2 · Product Specification (mm)



类型 Type	规格 Specification (mm)	厚度 Thickness (mm)	类型 Type	规格 Specification (mm)	厚度 Thickness (mm)
玻纤+铝箔PET GF+AL+PET	60*105	0.7	玻纤+铝箔PET GF+AL+PET	70*125	0.2
玻纤+铝箔PET GF+AL+PET	40*84	0.7	玻纤+铝箔PET GF+AL+PET	75*130	0.2
玻纤+铝箔PET GF+AL+PET	120*165	0.7	玻纤+铝箔PET GF+AL+PET	80*130	0.2
玻纤+铝箔PET GF+AL+PET	55*110	0.2	玻纤+铝箔PET GF+AL+PET	90*145	0.2
玻纤+铝箔PET GF+AL+PET	60*115	0.2	玻纤+铝箔PET GF+AL+PET	160*215	0.2

型号三·产品规格 Model 3 · Product Specification (mm)



类型 Type	规格 Specification (mm)	厚度 Thickness (mm)	类型 Type	规格 Specification (mm)	厚度 Thickness (mm)
无纺布+铝箔PET NWF+AL+PET	44*75	1.5	无纺布+铝箔PET NWF+AL+PET	110*165	1.5/4
无纺布+铝箔PET NWF+AL+PET	60*75	1.5	无纺布+铝箔PET NWF+AL+PET	190*245	4
无纺布+铝箔PET NWF+AL+PET	80*120	1.5	无纺布+铝箔PET NWF+AL+PET	40*75	4
无纺布+铝箔PET NWF+AL+PET	85*100	1.5	无纺布+铝箔PET NWF+AL+PET	75*130	4

PROTECTION / 防护

PLASTIC CORRUGATED PIPE
塑料波纹管

产品介绍 Product Introduction

为汽车空调制冷剂管、汽车线束等部件提供抗冲击、防摩擦、抗压保护。空调制冷剂管等部件提供抗冲击、抗压保护、保温；也可用于机械制造、汽车制造，航空设备，地铁，火车、自动化控制等行业。

Engineered protective solutions deliver impact resistance, abrasion protection, and compressive strength for automotive A/C refrigerant lines, wiring harness assemblies, and critical components. These systems provide integrated thermal insulation for refrigerant conduits while offering multi-axial mechanical protection. The technology is cross-industry adaptable, serving automotive manufacturing, aerospace equipment, rail transit systems (metro/rolling stock), and industrial automation controls.



重量轻
Light weight



自由弯曲
Free bending



弯曲时不改变截面积
Bending does not change the cross-sectional area



可以承受脚踩的重压，
迅速恢复，本身无任何损伤
Foot-traffic resistant elastomeric recovery with non-destructive resilience



耐水耐油，耐热耐腐蚀
Water and oil resistance, heat and corrosion resistance

基本用途 Basic application

电气绝缘保护、照明设备保护
Electrical insulation protection, lighting equipment protection

实验测试 Experimental testing

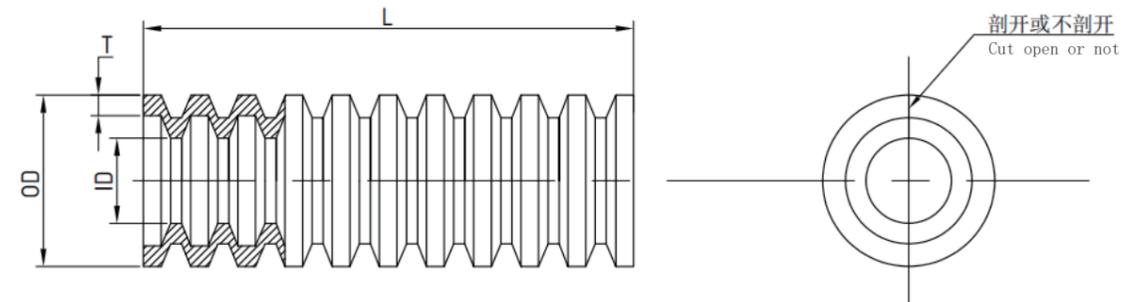
- ELV ELV
- 阻燃性能 Flame retardant performance

性能测试 Performance Test

测试项目 Test Item	测试条件 Test Condition
抗压性能 Compressive performance	125N,卸荷15min 125N, unloading for 15 minutes
弯曲性能 Bending performance	室温:无可见裂纹、量规自重通过;-15°C:无可见裂纹、量规自重通过; Room temperature: no visible cracks, gauge weight passes through- 15 °C: No visible cracks, gauge weight passes through;
弯扁性能 Bending and flattening performance	60°C, 24h量规自重通过 At 60 °C for 24 hours, the weight of the gauge passes through
跌落性能 Drop performance	20°C 2h:无震、破碎 20 °C for 2 hours: no vibration, broken
冲击性能 Impact performance	-15°C 2H 1.0J;12个试样不坏、不裂 -15°C 2H 1.0J; 12 samples remain intact and crack free
耐热性能 Heat resistance performance	60°C 1.0kg 24h:量规自重通过 60 °C 1.0kg 24h: gauge weight passes through
阻燃性能 Flame retardant performance	无明显火焰传播,离开火焰30S内自熄 No obvious flame propagation, self extinguishing within 30 seconds after leaving the flame
电气性能 Electrical performance	绝缘强度:绝缘电阻≥100MΩ Insulation strength: Insulation resistance ≥ 100M Ω
耐油性 Oil resistance performance	20°C 90#汽车浸泡48h:紧密、均匀、不松散 Soak 90 # car at 20 °C for 48 hours: tight, uniform, and not loose
耐温试验 Temperature resistance test	低温:-40°C/4H。高温:PA 150°C/4H;PP 120°C/4H;PE 80°C/4H Low temperature:- 40 °C/4H. High temperature: PA 150 °C/4H; PP 120°C/4H; PE 80°C/4H

产品规格 Product specification (mm)

内径 ID (mm)	外径 OD (mm)	材料 Material	是否剖开 Cut Open	内径 ID (mm)	外径 OD (mm)	材料 Material	是否剖开 Cut Open
Φ5.4	Φ7.6	PE/PP/PA	Y/N	Φ18.5	Φ23.5	PE/PP/PA	Y/N
Φ6.8	Φ9.6	PE/PP/PA	Y/N	Φ19.7	Φ24.1	PE/PP/PA	Y/N
Φ8.1	Φ11.7	PE/PP/PA	Y/N	Φ22.5	Φ28.6	PE/PP/PA	Y/N
Φ9	Φ12.5	PE/PP/PA	Y/N	Φ23.7	Φ27.5	PE/PP/PA	Y/N
Φ10.4	Φ14.6	PE/PP/PA	Y/N	Φ25	Φ29.5	PE/PP/PA	Y/N
Φ11.7	Φ15.5	PE/PP/PA	Y/N	Φ26.3	Φ33	PE/PP/PA	Y/N
Φ12.8	Φ17.4	PE/PP/PA	Y/N	Φ28.5	Φ33.5	PE/PP/PA	Y/N
Φ14.5	Φ18.5	PE/PP/PA	Y/N	Φ32	Φ38	PE/PP/PA	Y/N
Φ15.2	Φ19.4	PE/PP/PA	Y/N	Φ36.5	Φ42.5	PE/PP/PA	Y/N
Φ16.3	Φ20.5	PE/PP/PA	Y/N	Φ40	Φ45.5	PE/PP/PA	Y/N
Φ17	Φ21.2	PE/PP/PA	Y/N				



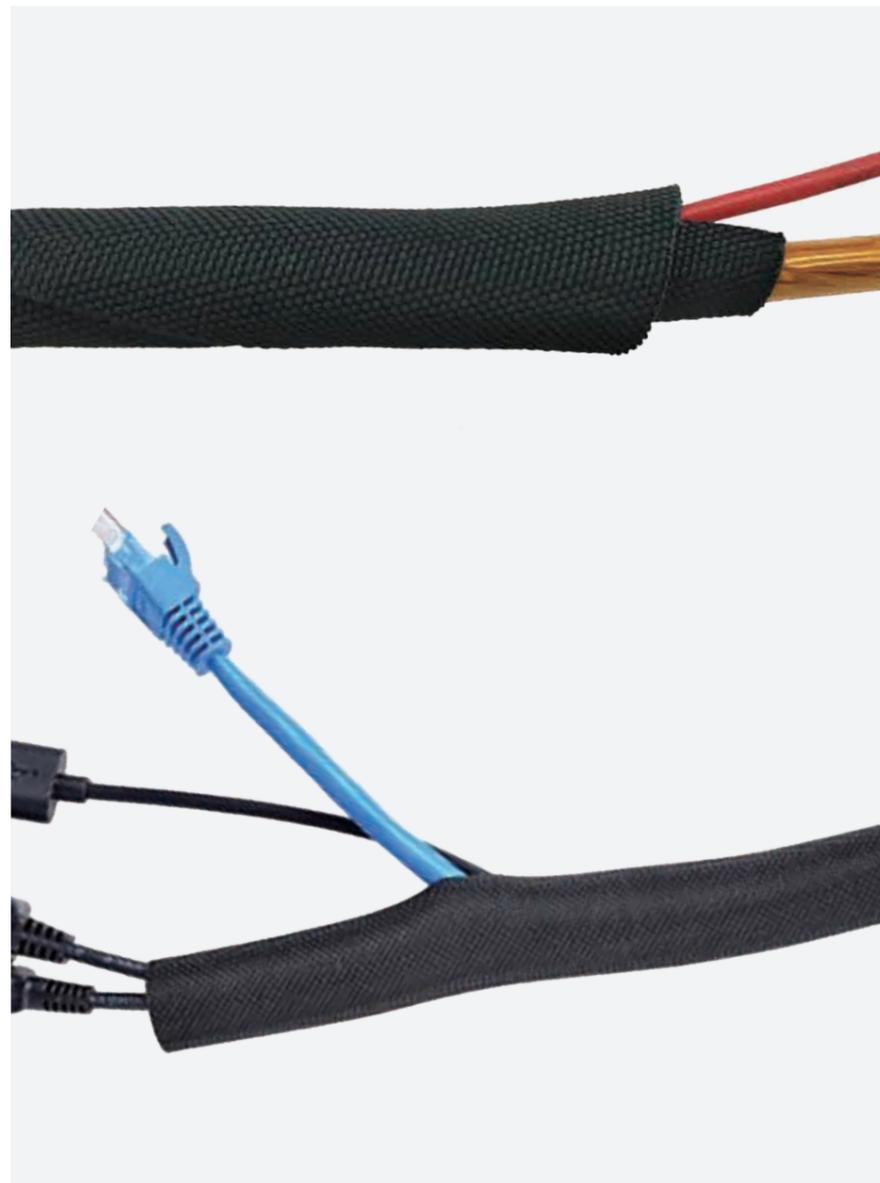
PROTECTION / 防护

SELF WINDING TEXTILE SLEEVE
自卷纺织套管

产品介绍 Product Introduction

采用耐磨丝编织而成。用于汽车磨擦较多的环境，套在胶管、线束外起防磨和保护作用。

Abrasion-resistant braided sleeving constructed with high-tenacity wear yarns, engineered for high-friction automotive environments to provide mechanical protection for hoses and wiring harness assemblies.




优良的耐水性
Excellent water resistance


优良的耐热性
Excellent heat resistance


优异的耐磨性
Excellent wear resistance


配合紧密
Closely coordinated

基本用途 Basic application

电脑周边连接线、HDMI、电脑电源线束、加工电器、汽车线束、灯饰、网络音频线、光缆、大型机械线路的保护与美化

Protection and beautification of computer peripheral cables, HDMI, computer power harnesses, processing appliances, automotive wiring harnesses, lighting fixtures, network audio cables, optical cables, and large mechanical circuits

实验测试 Experimental testing

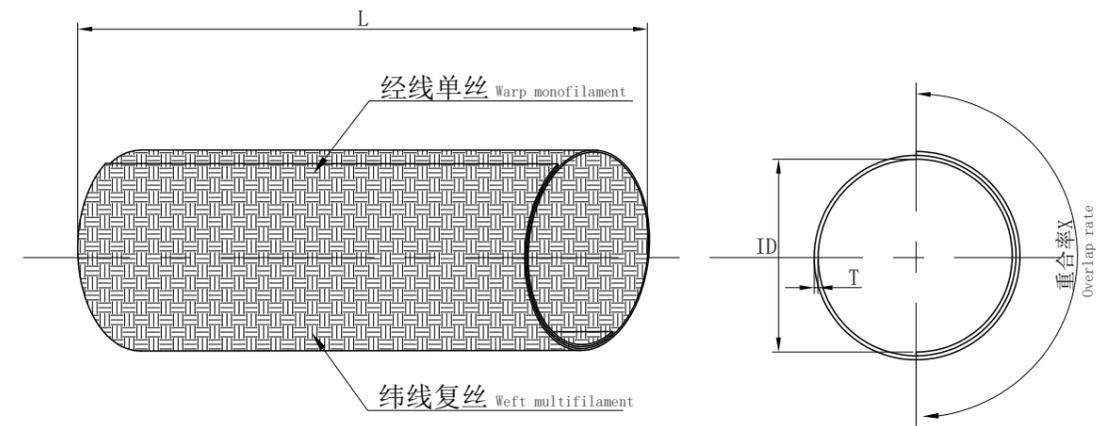
- 阻燃性能 Thermal insulation performance
- 烟毒性 Smoke toxicity
- 耐化学试剂 Chemical resistant reagents
- 耐磨性 Wear resistance
- 耐高温 High temperature resistance
- 耐老化 Aging resistance

性能测试 Performance test

测试项目 Test Item	测试条件 Test Condition	测试项目 Test Item	测试条件 Test Condition	测试项目 Test Item	测试条件 Test Condition
工作温度 Operation temperature	-50°C~150°C	熔点 Melting point	240°C	阻燃等级 Flame retardant grade	FMV SS302

产品规格 Product Specification (mm)

内径 ID(mm)	展开宽度 Expansion width	最大束线范围 Maximum cable range	重合率 Overlap rate	厚度 Thickness (mm)	内径 ID(mm)	展开宽度 Expansion width	最大束线范围 Maximum cable range	重合率 Overlap rate	厚度 Thickness (mm)
5	25	6	25%	0.6±0.15	5	28	6	50%	0.6±0.15
8	40	9			8	38	9		
10	45	11			10	50	11		
13	60	14			13	60	14		
16	70	17			16	80	17		
19	85	20			19	100	20		
25	105	26			25	120	27		
29	120	30			29	135	31		
32	135	33			32	155	34		
38	160	40			38	180	40		
					50	230	52		



PROTECTION / 防护

HEAT SHRINK SLEEVE 热缩管

产品介绍 Product Introduction

由高韧性聚酯多丝和高耐性聚酯多丝编织, 经特殊设计的粘合系统加工而成。

Engineered composite braid comprising high-tenacity polyester multifilament and ultra-wear-resistant polyester multifilament yarns, integrated through proprietary thermofusion bonding technology.



工作温度最高可达150°C

The maximum working temperature can reach 150 °C



预热收缩, 收缩比为2:1

Preheating shrinkage, with a shrinkage ratio of 2:1



优异的耐磨性

Excellent wear resistance



配合紧密

Closely coordinated



重量轻

Light weight



降噪

Noise reduction

基本用途 Basic application

为橡胶管和其他管道提供优良的抗耐磨性能

Provide excellent wear resistance for rubber pipes and other pipelines

实验测试 Experimental testing

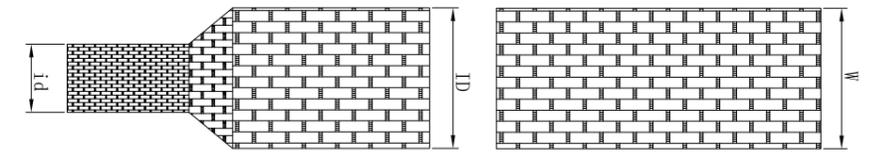
- ELV
- 阻燃性能

ELV Flame retardant performance

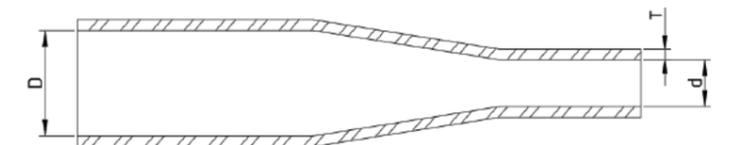
性能测试 Performance test

测试项目 Test Item	测试条件 Test Condition
温度等级 Temperature level	150°C
最低收缩温度 Minimum shrinkage temperature	100°C
最低完全恢复温度 Minimum complete recovery temperature	150°C
纵向收缩 Longitudinal contraction	10%
最大储存温度 Maximum storage temperature	60°C
热老化 Thermal aging	150°C条件下, 3000小时, 不退化 Under 150 °C conditions, no degradation after 3000 hours
液体阻力 Liquid resistance	应用于汽车流体后无可见退化和蚀变 No visible degradation or alteration after application to automotive fluids

产品规格 Product Specification (mm)



规格 Specification (mm)	扁平宽度 Flat width(mm)	收缩前内径 ID before contraction(mm)	收缩后内径 id after contraction(mm)
φ6.0/3.0	12	≥φ7	≤φ3
φ8.0/4.0	16	≥φ8	≤φ4
φ10.0/5.0	20	≥φ10	≤φ5
φ12.0/6.0	24	≥φ12	≤φ6
φ16.0/8.0	29	≥φ16	≤φ8
φ20.0/10.0	36	≥φ20	≤φ10
φ25.0/12.5	44	≥φ25	≤φ12.5
φ30.0/15.0	53	≥φ30	≤φ15
φ35.0/17.5	60	≥φ35	≤φ17.5
φ40.0/20.5	68	≥φ40	≤φ20.5
φ50.0/25.0	85	≥φ50	≤φ25
φ60.0/30.0	100	≥φ60	≤φ30
φ70.0/35.0	116	≥φ70	≤φ35
φ80.0/40.0	132	≥φ80	≤φ40
φ90.0/45.0	145	≥φ90	≤φ45



规格 Specification (mm)	收缩前内径 ID before contraction(mm)	收缩前壁厚 Wall thickness before contraction(mm)	收缩后内径 ID after contraction(mm)	收缩后壁厚 Wall thickness after contraction(mm)
φ1.5	2	0.2	≤0.8	0.4
φ2	2.5	0.2	≤1	0.42
φ2.5	3	0.22	≤1.25	0.42
φ3	3.5	0.25	≤1.5	0.46
φ3.5	4	0.25	≤1.75	0.46
φ4	4.5	0.25	≤2	0.48
φ4.5	5	0.25	≤2.25	0.48
φ5	5.5	0.25	≤2.5	0.48
φ6	6.5	0.25	≤3	0.5
φ6.5	7	0.3	≤3.25	0.58
φ7	7.5	0.3	≤3.5	0.58
φ8	8.5	0.36	≤4	0.7
φ9	9.5	0.36	≤4.5	0.72
φ10	10.5	0.36	≤5	0.72
φ11	11.5	0.36	≤5.5	0.72
φ12	12.5	0.36	≤6	0.72
φ13	13.5	0.36	≤6.5	0.72
φ14	14.5	0.36	≤7	0.72
φ15	15.5	0.36	≤7.5	0.72
φ16	16.5	0.36	≤8	0.72
φ17	17.5	0.36	≤8.5	0.72
φ18	18.7	0.4	≤9	0.78
φ20	20.7	0.4	≤10	0.8
φ22	22.7	0.46	≤11	0.86
φ25	25.7	0.46	≤12.5	0.9
φ28	29	0.46	≤14	0.94
φ30	31	0.46	≤15	1
φ35	36	0.5	≤17.5	1
φ40	41.5	0.5	≤20	1.05
φ45	46.5	0.5	≤22.5	1.05
φ50	52	0.55	≤25	1.15
φ55	57	0.55	≤28	1.15
φ60	62	0.58	≤30	1.2
φ70	72	0.58	≤35	1.2
φ80	82	0.6	≤40	1.2

PROTECTION / 防护

BRAIDED SLEEVE 编织管

产品介绍 Product Introduction

采用耐磨丝编织而成。用于汽车磨擦较多的环境,套在胶管、线束外起防磨和保护作用。

Abrasion-resistant braided sleeving constructed with engineered wear-resistant yarns, specifically designed for high-friction automotive applications to provide mechanical protection for rubber hoses and wiring harness assemblies.



基本用途 Basic application

电脑周边连接线、HDMI、电脑电源线束、加工电器、汽车线束、灯饰、网络音频线、光缆、大型机械线路的保护与美化

Computer peripheral connection cable HDMI, Protection and beautification of computer power wiring harnesses, processing appliances, automotive wiring harnesses, lighting fixtures, network audio cables, optical cables, and large mechanical circuits

实验测试 Experimental testing

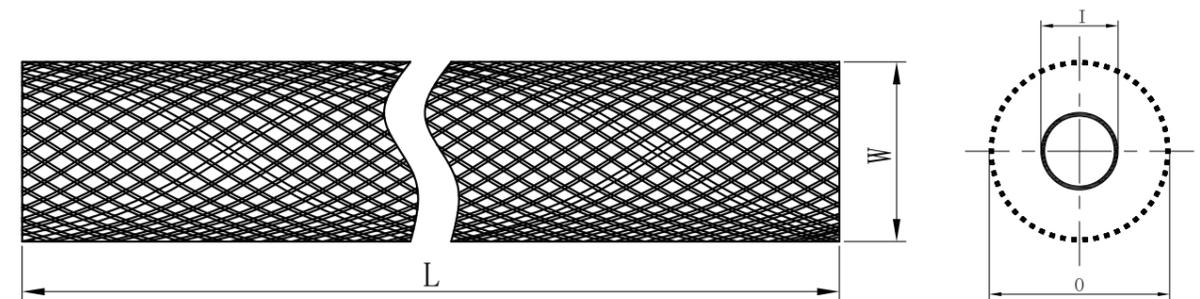
- 阻燃性能
Flame retardant performance
- 耐试剂
Resistant to reagents
- 耐高温
High temperature resistance
- 烟毒性
Smoke toxicity
- 耐磨性
Wear resistance
- 耐老化
Aging resistance

性能测试 Performance test

测试项目 Test Item	测试条件 Test Condition	测试项目 Test Item	测试条件 Test Condition	测试项目 Test Item	测试条件 Test Condition
工作温度 Operation temperature	-40°C~125°C	熔点 Melting point	240°C	阻燃等级 Flame retardant grade	FMV SS302

产品规格 Product Specification (mm)

扁平宽度 Flat width(mm)	内径范围 ID range(mm)	丝径 Wire diameter(mm)	结构 Material structure
7	φ3 - φ9	0.25/0.38	PET/PA6/PA66/PET+PA6/PET+PA66
9	φ5 - φ12		
10	φ7 - φ15		
14	φ7 - φ15		
16	φ10 - φ27		
19	φ14 - φ30		
25	φ18 - φ33		
32	φ25 - φ37		



PROTECTION / 防护

FOAM SHEATH 发泡护套

产品介绍 Product Introduction

作为一种弹性好、耐磨、耐热、耐气候、耐臭氧、耐淡水和海水性能非常好的橡胶，被广泛用于汽车部件、建筑用防水材料、电线电缆护套、耐热胶管、胶带、汽车密封件等领域。

As a rubber with excellent elasticity, wear resistance, heat resistance, weather resistance, ozone resistance, and resistance to freshwater and seawater, it is widely used in fields such as automotive components, waterproof materials for construction, wire and cable sheaths, heat-resistant rubber hoses, tapes, and automotive seals.



基本用途 Basic application

在发动机冷却系统中的应用，此类材料具有一定的硬度，且具有抗拉伸、抗老化、抗腐蚀、耐候性等优势，所以也常被用于发动机冷却系统的密封圈、输送冷却液的软管，以及暖气、通风和空调管道的制作。

In the application of engine cooling system, this kind of material has a certain hardness, and has the advantages of tensile resistance, aging resistance, corrosion resistance, weather resistance, etc., so it is also often used in the production of sealing rings of engine cooling system, hoses for conveying coolant, and heating, ventilation and air conditioning pipes.

密封作用—车辆密封条。由于EPDM材料具有耐候、减震、防水、防尘、隔音、装饰等作用，所以经常被用于汽车的前后风挡、车门、车窗、发动机舱、后备箱等部位，用来填补车身部件之间的间隙，以达到隔音作用。

Sealing function - vehicle sealing strip. Due to its weather resistance, shock absorption, waterproof, dustproof, soundproof, decorative and other functions, EPDM material is often used in the front and rear windshields, doors, windows, engine compartment, trunk and other parts of automobiles to fill the gaps between body components and achieve sound insulation.

在汽车机械拉带中的应用。此类材料的使用温度在 -40 °C~120°C，对阳光、水和臭氧有一定的抵御作用，且能承受较高的动态和机械负荷，也被用于轮罩之间的联接和电瓶箱盖的紧固。

Application in automotive mechanical pull straps. The use temperature of this type of material is between -40 °C and 120 °C, which has a certain resistance to sunlight, water, and ozone, and can withstand high dynamic and mechanical loads. It is also used for connecting wheel covers and fastening battery box covers.

实验测试 Experimental testing

- 阻燃性能
Flame retardant performance
- 吸水性
Water absorption
- 尺寸稳定性
Dimensional stability
- 耐臭氧
Ozone resistance
- ELV
ELV
- 硬度
Hardness
- 粘接强度
Adhesion
- 隔热性能
Thermal insulation performance
- 密度
Density
- 压缩回弹率
Compression resilience ratio

性能测试 Performance Test

测试项目 Test Item

耐老化特性, 耐气候、耐臭氧、耐日光、耐热、耐水、耐水蒸气、耐紫外线、耐辐射性能

Aging resistance, weather resistance, ozone resistance, sunlight resistance, heat resistance, water resistance, water vapor resistance, UV resistance, and radiation resistance

耐化学药品特性, 耐酸、碱、洗涤剂、动植物油脂、醇、酮等; 杰出的耐水、耐过热水、耐水蒸气性能、耐极性油性能

Chemical resistance characteristics, including acid, alkali, detergent, animal and vegetable oils, alcohols, ketones, etc.; Outstanding water resistance, overheating resistance, steam resistance, and polar oil resistance

绝缘性能, 体积电阻率1016Q·cm、击穿电压30~40MV/m、介电常数(1kHz, 20°C)2.27

Insulation performance, volume resistivity 1016Q · cm, breakdown voltage 30-40 MV/m, dielectric constant (1kHz, 20 °C) 2.27.

适用温度范围广, 最低使用温度-40~-60°C, 可长期在130C条件下使用

Widely applicable temperature range, with a minimum operating temperature of -40~-60 °C, and can be used for a long time under 130C conditions.

产品规格 Product specification (mm)

内径 ID (mm)	壁厚 Wall thickness (mm)	材料 Material
φ8	2.5-5	EPDM/PVC/NBR 可覆铝箔或铝箔玻纤 Can be covered with aluminum foil or aluminum foil fiberglass
φ9	3-10	
φ12.7	3-10	
φ12	3-10	
φ14	3-10	
φ15	3-10	
φ16	3-10	
φ17	3-10	
φ18	3-10	
φ19	3-10	
φ20	3-10	
φ21	3-10	
φ23	3-10	
φ24	3-10	
φ25	3-10	
φ26	3-10	
φ27	3-10	
φ28	3-10	
φ29	3-10	
φ31	3-10	
φ33	3-10	
φ37	3-10	

PROTECTION / 防护

BUTTON COVER 纽扣护套

产品介绍 Product Introduction

由无纺布氧化碳、外表叠覆铝箔的玻璃纤维布以及胶带等两种或多种材料制成；
常用于汽车系统中各部位尼龙接头处的隔热、耐磨保护

Made of two or more materials such as non-woven carbon oxide, glass fiber cloth with aluminum foil overlay on the surface, and adhesive tape;



- 可定制设计**
Customizable design
- 优良的防辐射热**
Excellent anti radiation heat
- 优良的反射绝缘**
Excellent reflective insulation
- 配置内扣, 安装方便**
Configure internal buckle for easy installation
- 优良的耐热性**
Excellent heat resistance
- 重量轻**
Light weight

基本用途 Basic application

软管、塑料部件、管道、任何需要自固定热防护的区域
Hoses, plastic parts, pipes, any area that requires self securing thermal

实验测试 Experimental testing

- ELV
- 阻燃性能
Flame retardant performance
- 隔热性能
Thermal insulation performance

性能测试 Performance Test

测试项目 Test Item	测试项目 Test Item
耐高温 High temperature resistance	耐磨 Wear resistant
阻燃性能 Flame retardant performance	耐腐蚀 Corrosion preventive
防火 Fireproof	

产品规格 Product Specification (mm)

材料 Material	
复合玻纤布	Composite glass fiber cloth
芳纶线	Aramid yarn
纽扣	Button

SEAM SHEATH 缝口护套

产品介绍 Product Introduction

由铝箔玻纤布、玻璃纤维毡以及铝箔胶带等多种材料制成；
常用于汽车系统中各部位尼龙接头处的隔热、耐磨保护

Made of various materials such as aluminum foil fiberglass cloth, fiberglass felt, and aluminum foil tape;
Commonly used for insulation and wear-resistant protection at nylon joints in various parts of automotive systems



- 可定制设计**
Customizable design
- 优良的防辐射热**
Excellent anti radiation heat
- 优良的反射绝缘**
Excellent reflective insulation
- 优良的耐热性**
Excellent heat resistance
- 重量轻**
Light weight

基本用途 Basic application

软管、塑料部件、管道、任何需要自固定热防护的区域
Hoses, plastic parts, pipes, any area that requires self securing thermal

实验测试 Experimental testing

- ELV
- 阻燃性能
Flame retardant performance
- 隔热性能
Thermal insulation performance

性能测试 Performance Test

测试项目 Test Item	测试项目 Test Item
耐高温 High temperature resistance	耐磨 Wear resistant
阻燃性能 Flame retardant performance	耐腐蚀 Corrosion preventive
防火 Fireproof	

产品规格 Product Specification (mm)

材料 Material	
复合玻纤布	Composite glass fiber cloth
芳纶线	Aramid yarn
纽扣	Button

CONNECTION / 连接

TELESCOPIC TUBE 塑料伸缩管

产品介绍 Product Introduction

采用改性塑料材料和钢丝缠绕卷绕而成。

Made by winding modified plastic material and steel wire.



任意弯曲不反弹

Arbitrary bending without rebound



来回伸缩1万次不破裂

Stretching and retracting
10000 times without breaking



工作温度: -30°C~+120°C

Working temperature: -30 °C~+120 °C



基本用途 Basic application

移动空调冷热空气传输、干被机空气传输、抽湿机空气传输、抽油烟机排气、通风扇排风、浴霸排风、污水排放

Mobile air conditioning cold and hot air transfer, dry bed machine air transfer, dehumidifier air transfer, range hood exhaust, ventilation fan exhaust, bathroom heater exhaust, sewage discharge

实验测试 Experimental testing

- ELV
ELV
- 阻燃性能
Flame retardant performance

性能测试 Performance Test

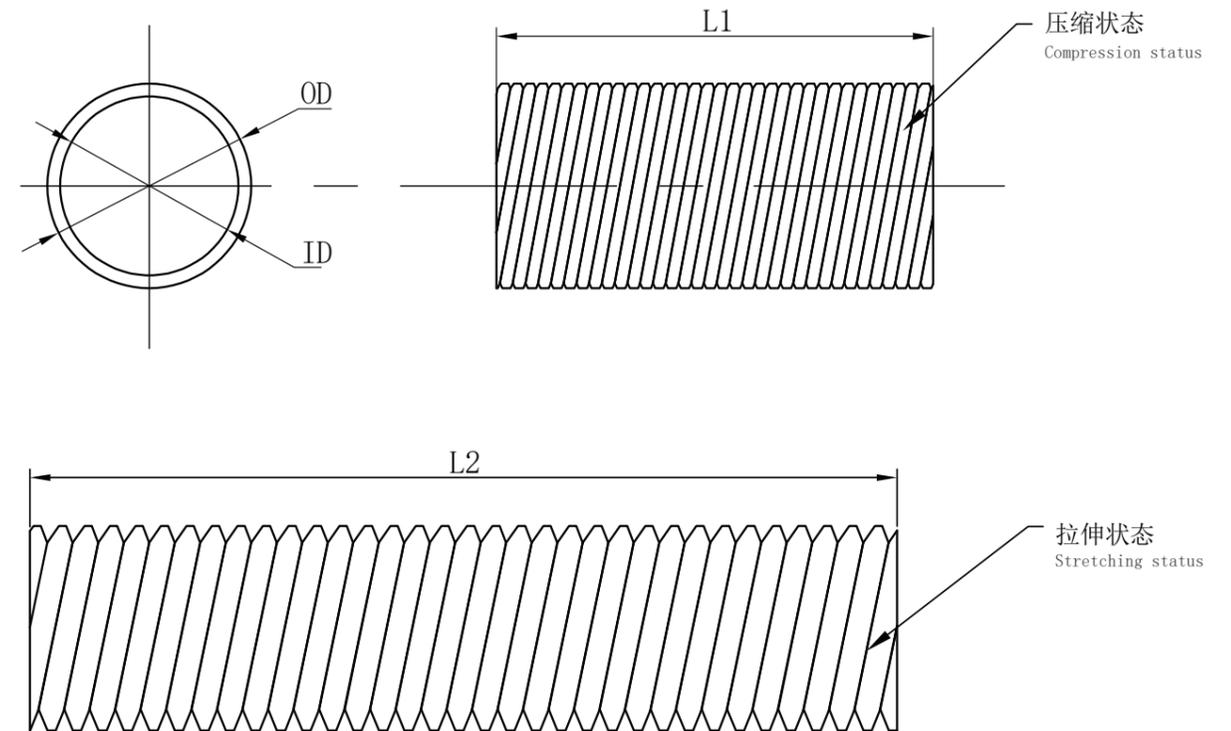
测试项目
Test Item

PE耐温80°C、PP耐温120°C、PA耐温130°C

PE temperature resistance 80 °C, PP temperature resistance 120 °C, PA temperature resistance 130

产品规格 Product Specification (mm)

内径 ID(mm)	颜色 Specifications	
32	黑色/灰色	Black/Grey
60	黑色/蓝色/红色/银色	Black/Blue/Red/Silver
65	黑色/蓝色/红色/银色	Black/Blue/Red/Silver
70	黑色/蓝色/红色/银色	Black/Blue/Red/Silver
75	黑色/蓝色/红色/银色	Black/Blue/Red/Silver
76	黑色/蓝色/红色/银色	Black/Blue/Red/Silver



CONNECTION / 连接

NYLON TUBE 尼龙管

产品介绍 Product Introduction

尼龙管用于防止机油变质,防止曲轴油封、曲轴箱衬垫渗漏,防止各种油蒸气污染大气,输送冷却液等,适用于汽车曲轴箱通风系统和冷却系统。

Nylon tubing is used to prevent engine oil deterioration, prevent leakage of crankshaft oil seals and crankcase liners, prevent various oil vapors from polluting the atmosphere, and transport coolant. It is suitable for automotive crankcase ventilation and cooling systems.



曲轴箱通风空滤端软管
Crankcase Ventilation Air Filter-side Hose



曲轴箱通风增压器端软管
Crankcase Ventilation Turbocharger-side Hose



冷却管
Water-cooling Hose

基本用途 Basic application

汽车曲轴箱通风系统、汽车电池包冷却管路、储能冷却管路

Automobile crankcase ventilation system, automobile battery pack cooling pipeline, energy storage cooling pipeline

实验测试 Experimental testing

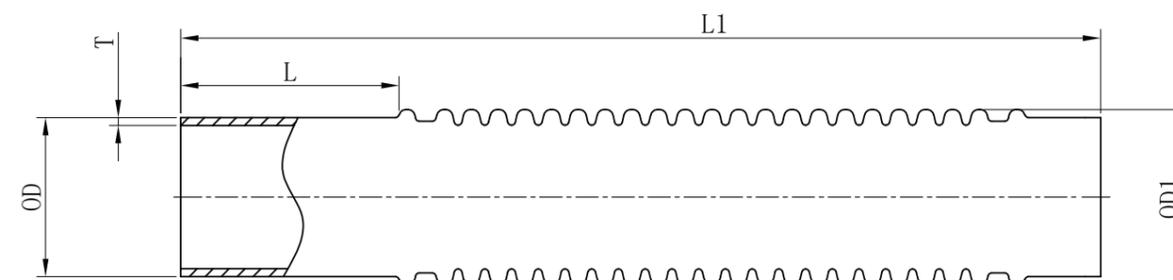
- 阻燃性能 (Flame retardant performance)
- 热变形温度 (Hot deformation temperature)
- 爆破压力 (Blasting pressure)
- 断裂伸长率 (Elongation rate)
- ELV (ELV)
- 拉伸模量 (Tensile modulus)
- 弯曲性能 (Bending performance)
- 清洁度 (Cleanliness)
- 密度 (Density)
- 热老化 (Thermal aging)
- 低温冲击 (Low temperature shock)
- 真空吸瘪 (Vacuum suction collapse)
- 熔融温度 (Melting temperature)
- 耐渗透 (Penetration resistance)
- 屈服应力 (Yield stress)

性能测试 Performance test

测试项目 Test Item	测试项目 Test Item	测试条件 Test Condition	测试项目 Test Item	测试条件 Test Condition
长期耐高温120°C, 瞬时150°C Long term high temperature resistance of 120 °C, instantaneous temperature of 150 °C	耐低温 Low temperature resistance	-40°C	抗拉强度 Tensile strength	≥450N
耐水解 Resistant to hydrolysis	爆破压力 Blasting pressure	≥1MPa	燃烧速率 Burning rate	≤100mm/min
耐燃油 Fuel resistant	抗压 Stress resistance	5~10Kpa		

产品规格 Product Specification (mm)

外径 OD (mm)	厚度 Thickness (mm)	材料 Material
φ8	1	PA6/PA12/PA612
φ10	1	PA6/PA12/PA612
φ12.5	1/1.25	PA6/PA12/PA612
φ14	1/1.25	PA12
φ16	1/1.25	PA6/PA12/PA612
φ19	1.25/1.5	PA12
φ22	1/1.25/1.5	PA6/PA12/PA612
φ29	2	PA12



CONNECTION / 连接

STAINLESS STEEL BELLOWS
不锈钢波纹管

产品介绍 Product Introduction

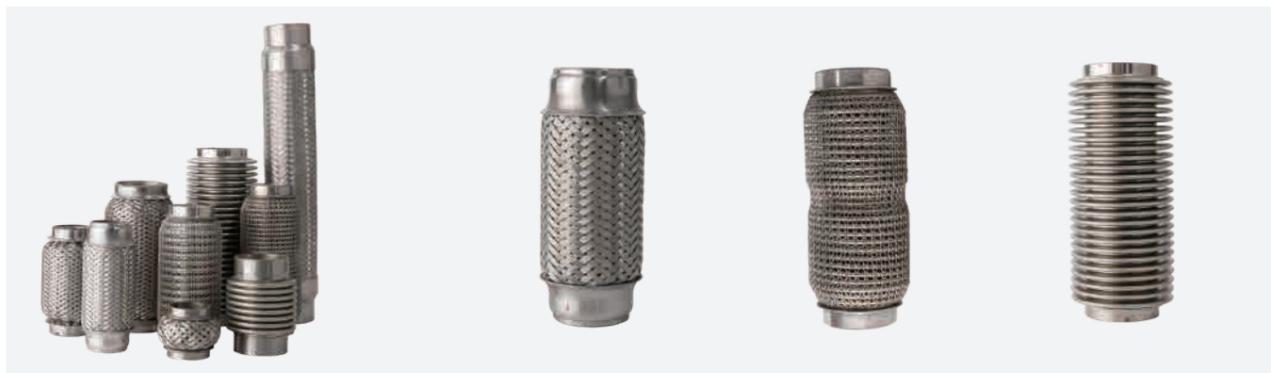
不锈钢波纹管作为一种柔性耐压管件安装于液体输送系统中,用以补偿管道或机器、设备连接端的相互位移,吸收振动能量,能够起到减振、消音等作用,具有柔性好、重量轻、耐腐蚀、抗疲劳、耐高低温等多项特点。

Stainless steel bellows are installed in the liquid conveying system as a flexible pressure resistant pipe to compensate for the mutual displacement of the pipe or the connecting end of the machine and equipment, absorb vibration energy, and can play the role of vibration reduction, noise reduction, etc., with good flexibility, light weight, corrosion resistance, fatigue resistance, high and low temperature resistance and many other characteristics.

- 
耐腐蚀性
Corrosion resistance
- 
耐高压
High pressure resistant
- 
防震
Anti-vibration
- 
防错位
Anti-misalignment
- 
施工性好
Good workability
- 
耐高温
Thermal endurance



涡轮增压
Tubes for turbocharging



挠性结
Flexible joint



排气管
Exhaust pipe

基本用途 Basic application

排气系统
Exhaust system

实验测试 Experimental testing

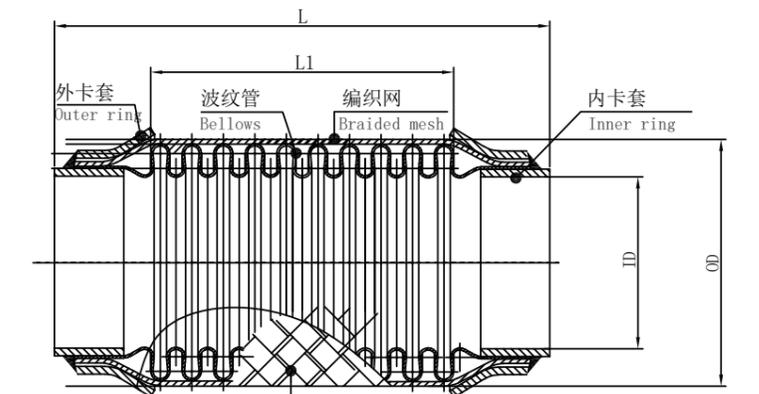
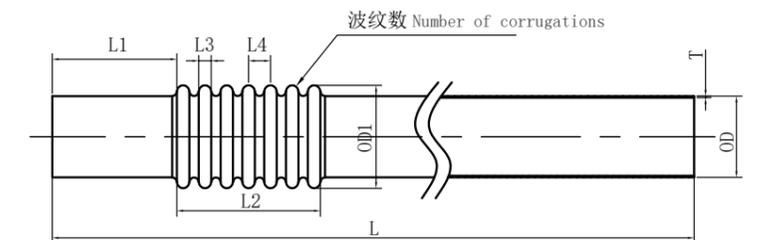
- 泄露测试
Leakage testing
- 材料化学成分
Chemical composition of materials
- 硬度
Hardness
- ELV
ELV
- 机械性能
Mechanical performance
- 减薄率
Thinning rate

性能测试 Performance test

测试项目 Test Item	测试项目 Test Item	测试项目 Test Item	测试条件 Test Condition
减震 Shock absorption	耐腐蚀 Corrosion resistance	耐高温 Thermal endurance	≥450°C
消音 Noise reduction	抗疲劳 Anti-fatigue	耐磨损 Wear resistance	

产品规格 Product Specification (mm)

胚管口径 Stainless tube diameter	厚度 Thickness (mm)
φ9	0.5
φ12	0.3
φ13	0.5
φ13.2	0.4
φ14	0.2
φ14	0.3
φ14	0.4
φ14	0.5
φ14.5	0.4
φ15	0.4
φ15	0.5
φ16	0.5
φ21	0.5
φ22	0.3
φ23	0.5
φ25	0.2
φ25	0.5
φ25	0.6
φ26	0.5
φ40	0.5
φ50	0.3



内部为波纹管, 外部包围不锈钢编织网
The interior is bellows and the exterior is surrounded by stainless steel braided wire mesh

CONNECTION / 连接

HEATER EXHAUST PIPE 驻车加热器排气管 (不锈钢缠绕管)

产品介绍 Product Introduction

采用304不锈钢带螺旋卷边缠绕而成，管壁再压成波纹状，以便弯曲。具有耐高温，耐酸碱，易定型。用途广泛，适合吸尘、排风、抽气之用。

It is made of 304 stainless steel with spiral edge wound, and the pipe wall is pressed into a corrugated shape for bending. With high temperature resistance, acid and alkali resistance, easy to shape. It has a wide range of uses, suitable for vacuuming, air exhaust, air extraction for all kinds of applications.



基本用途 Basic application

主要用于驻车加热器排气管，具有耐高温，耐酸碱，易定型等特点。适合吸尘、排风、抽气之用。Mainly used for parking heater exhaust pipe, with high temperature resistance, acid and alkali resistance, easy to shape and so on. Suitable for vacuuming, air exhaust and air extraction.

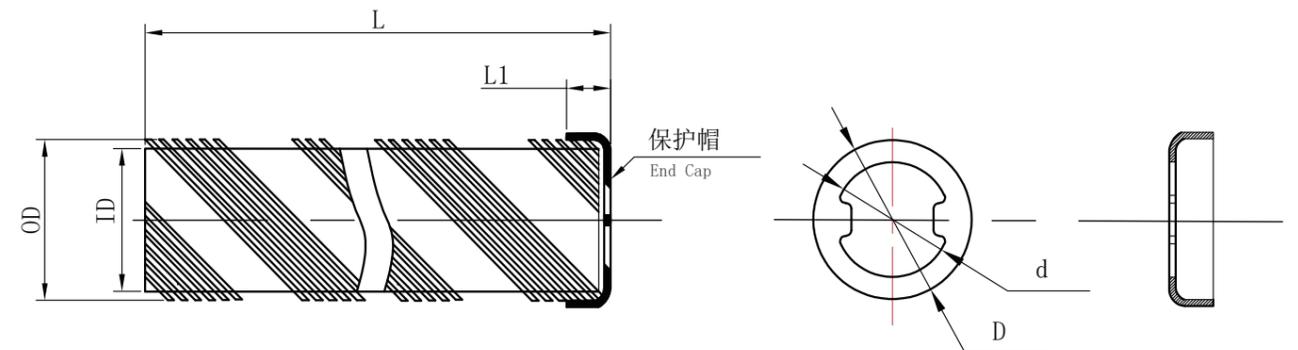
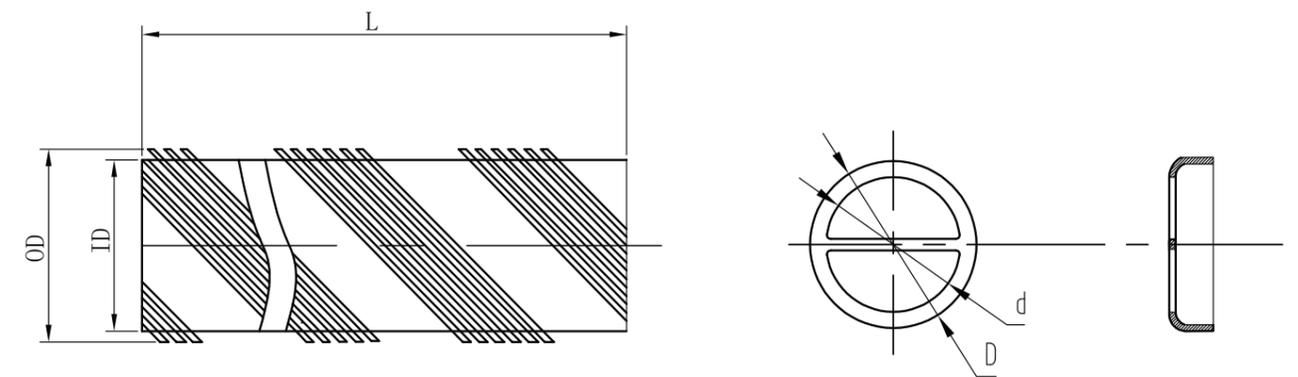
性能测试 Performance test

测试项目 Test Item	测试项目 Test Item	测试项目 Test Item	测试条件 Test Condition	测试项目 Test Item
减震 Shock absorption	消音 Noise reduction	耐高温 High temperature resistance	≥450°	耐磨损 Wear resistance
耐腐蚀 Corrosion resistance	抗疲劳 Anti-fatigue	耐低温 Low temperature resistance	≥-196°C	弯曲性 Flexibility

产品规格 Product Specification (mm)

内径 ID (mm)	波高 Wave height	外径 OD (mm)	工艺结构 Process structure	是否配帽 End Cap or Not
22.1	*	25.8	滚花, 高波 knurling, high corrugation	Y/N
24.1	*	27.8	滚花, 高波 knurling, high corrugation	Y/N
24.1	*	26.8	滚花, 低波 knurling, high corrugation	Y/N
24.5	*	28	滚花, 高波 knurling, high corrugation	Y/N
25	1.8	*	滚花, 高波 knurling, high corrugation	*
28	1.8	*	滚花, 高波 knurling, high corrugation	*
30.2	*	33.5	滚花, 高波 knurling, high corrugation	Y/N
32	*	35.8	滚花, 高波 knurling, high corrugation	*
32.5	1.8	*	滚花, 高波 knurling, high corrugation	*
38	*	41.8	滚花, 高波 knurling, high corrugation	*
38.5	*	42	滚花, 高波 knurling, high corrugation	Y/N
42	1.8	*	滚花, 高波 knurling, high corrugation	*
45	1.8	*	滚花, 高波 knurling, high corrugation	*
50	*	53.8	滚花, 高波 knurling, high corrugation	*
51	1.8	*	滚花, 高波 knurling, high corrugation	*
65	1.8	*	滚花, 高波 knurling, high corrugation	*
71	2	*	滚花, 高波 knurling, high corrugation	*

* 未标注的尺寸接受客户定制
Customization is acceptable for unmarked dimensions



CONNECTION / 连接

POWER STEERING SILENCER HOSE

动力转向消声管 (不锈钢消声管)

产品介绍 Product Introduction

消声管是由2根钢丝缠绕而成, 主要用于动力转向系统中。

The silencing tube is made of two steel wires wound together and is mainly used in power steering systems.



采用碳钢或不锈钢材料, 不锈钢可以解决镀锌消声管接缝和中间电镀不到的问题, 大大提高清洁度

By using carbon steel or stainless steel materials, stainless steel can address issues such as seams in galvanized silencer tubes and incomplete electroplating in certain areas, significantly improving cleanliness.



耐高温

High temperature resistance



耐油

Oil resistance



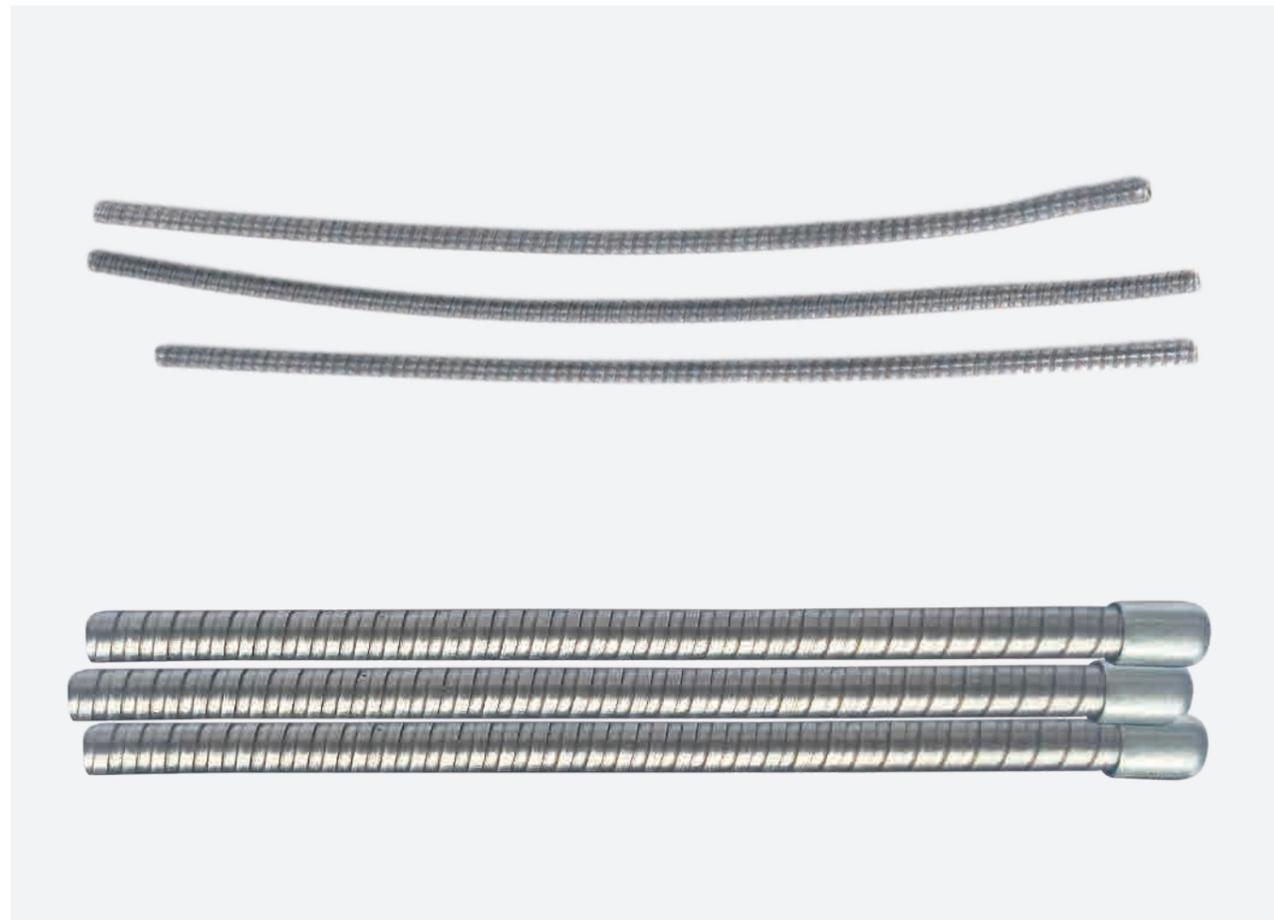
耐腐蚀性

Corrosion resistance



抗震动

Anti-vibration



基本用途 Basic application

动力转向系统

Power Steering System

实验测试 Experimental testing

• 弯曲性能

Bending Property

• 清洁度

Cleanliness Test

• 盐雾试验

Salt spray test

性能测试 Performance test

测试项目 Test Item	测试条件 Test Condition
耐高温 High temperature resistance	碳钢 ≥ 350°C, 不锈钢 ≥ 450°C Carbon steel ≥ 350 °C, stainless steel ≥ 450 °C
耐低温 Low temperature resistance	碳钢 ≥ -40°C, 不锈钢 ≥ -196°C Carbon steel ≥ -40 °C, stainless steel ≥ -196 °C
在大多数有机酸和无机酸以及碱性溶液中均表现出稳定性 Exhibits stability in the presence of most organic and inorganic acids, as well as in alkaline solutions	
振动等级: 中等 Vibration level: Medium	

产品规格 Product Specification (mm)

内径 ID (mm)	材料 Material
φ3*5.2	碳钢/不锈钢304 Carbon steel / SUS304
φ4.3*6.3	
φ5.1*7.3	
φ5.8*7.8	
φ7.2*9.3	

