



- 预制电伴热保温管缆
- 预制蒸汽伴热保温管缆
- 防腐蚀绝缘保护管



工艺科技 源自以色列
专业保温 伴热预制管缆提供商
上海制造

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渥森流体传动产品（上海）有限公司



预制保温 / 电伴热 / 蒸汽伴热 / 管缆T.B.P 工艺简介 Pre-Insulated Bundled Tubing Instruction



预制电伴热保温管缆是一种将介质导管、电伴热带、保温材料和外护套集于一体的伴热保温管缆产品。电伴热带被预先置入，保温材料和防水护套在工厂完成。应用时对电伴热带通电，可起到防冻或温度维持的作用。

预制单根保温管线，由介质导管、保温层和防水外护套组成。主要应用于流体、蒸汽或其它气体的传输，传输时起到减少传输热损并保护人身安全（隔热以免烫伤）的作用。

UTC Pre-Insulated tubing is designed for the applications where a minimum heat loss is requested. This product provides a solution for maintaining a stable temperature along the line with a minimum preserved energy. The maintenance of applications such as steam supply and condensate return takes much installation time, shut off lines in the jobsite and in many cases loss of productivity and profits. The solution is a thermally protection on the line by the usage of Pre-Insulated tubing.

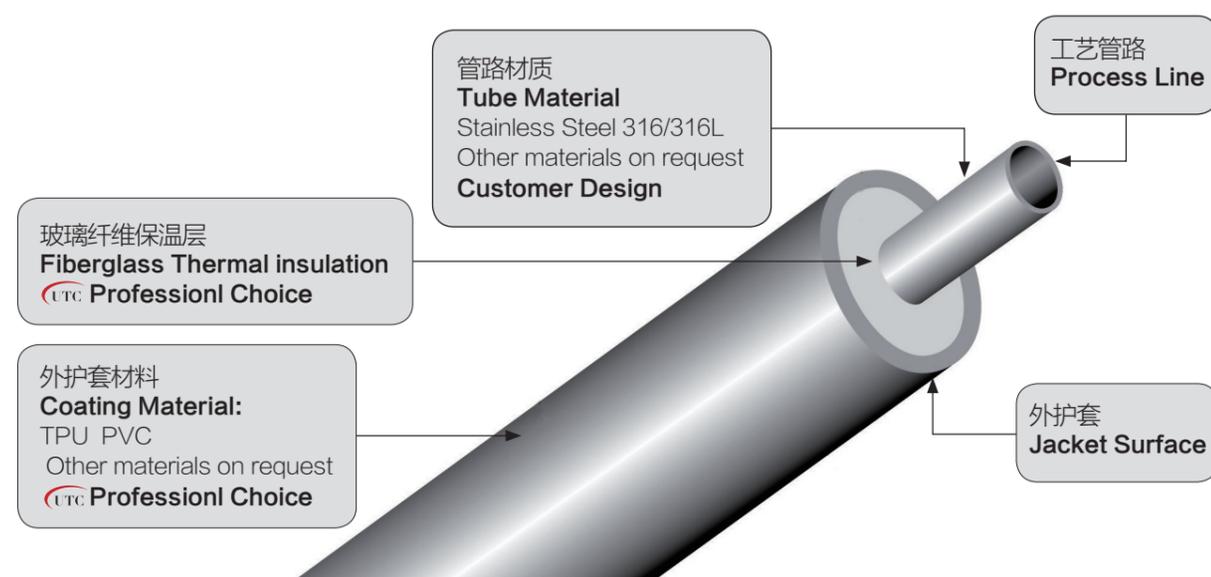
It is highly recommended to be used where ambient temperature tends to vary between day to night and in cases where it drops down to freeze conditions. The Pre-Insulated tube also protects the personnel from contacting directly with the high temperature lines and contributes to the safety working environment. The usage of the Pre-Insulated tubing contributes to a clean environment where less energy is consumed.

特点 | Features

- 1.各种内置管材选择，连续管线，安装便捷，节省大量人工。
- 2.提供TPU/PVC外套保护，防腐绝缘安全可靠。
- 3.玻璃纤维隔热层帮助减少热损失保温效果高，保温效果可靠。

- 1.Multiple options of tubing material, integrated continuous tubing, easy for installation and saving of man-hours.
- 2.Thermoplastic polyurethane (TPU) and PVC jackets help protect tubing from external corrosion abrasion.
- 3.Fibrous glass insulation reduces heat loss and helps protect personnel.

预制保温管缆的结构 | Pre-Insulated Bundled Tube diagram



技术参数 | Tubing Bundled Technical Data

公制 Metric

Tube OD	Wall Thickness	max. Process Temp	min Service and Installation Temp	Pressure Rating @204 C		Min Bend Radius	Support Centres		Weight	Jacket OD	max bulk length +/- 10%			
mm	mm	(C)	(C)	bar		cm	m		kg/m	mm	m			
				Seamless	Welded		Horiz	Verti			Seamless	Welded		
Stainless Steel (ASTM A269, A213 TP 316/316L)														
6	1.00	204	Service: -35 Installation: -23	400	320	20.30	1.80	4.60	0.40	25.00	610	305		
10				230	180						0.60	29.00	335	100
12				190	150						0.65	31.00	275	100

* 14mm is available. 具体参数与细节与当地工程师联络

英制 Fractional

Tube OD	Wall Thickness	max. Process Temp	min Service and Installation Temp	Pressure Rating @400F		Min Bend Radius	Support Centres		Weight	Jacket OD	max bulk length +/- 10%			
in	in	(F)	(F)	psig		in	ft		lb/ft	in	in			
				Seamless	Welded		Horiz	Verti			Seamless	Welded		
Stainless Steel (ASTM A269, A213 TP 316/316L)														
1/4	0.035	400	Service: -35 Installation: -10	4900	3900	8.00	6.00	15.00	0.20	1.00	1100	1250		
3/8	0.049			3200	2500						0.30	1.20	1300	1250
1/2	0.035			2500	2000						0.45	1.30	1000	800
	0.049	3600	2850	750	1050									

* Note: Standard Coating Wall Thickness 1.3mm (0.052")

**Note: Not recommended to use with Gas service

***Maximum process temperature NOT continuous temperature rating which is 105 Deg C according to UL 1581. Please contact us for more information about heat tolerance.

Specifications are for reference only and are subject to change without notice Actual product dimensions may vary from the catalog dimensions

WARNING! For Your Safety the system designer have the sole responsibility to select the products suitable for their special application requirements and to ensure the proper installation, operation and maintenance of the product. Please consider application details, material compatibility and product ratings when making your selection. Improper selection or use of products can cause property damage and or personal injury

UTC 拥有专业的行业领先的工程计算能力,可以形成产品验证到产品优化的闭环设计模式
Professional engineering calculation capability, supported by advanced design software. Leading technology & equipment of design verification and product test.



How to order

Build a Single, Thermal insulated or Own customer jacket tubing ordering number by combining the designators in the sequence shown below.

I **II** **III** **IV** **V**
SBT1 – **SS** – **4-S-35** – **TP** – **250**

I Model

SBT1/SBT2 = 预制蒸汽单根伴热保温管缆 / 预制蒸汽双根伴热保温管缆
 Insulated Light Steam-Traced Bundled Tubing

EBT = 预制电伴热保温管缆 (与用户协商伴热带的选型)
 Insulated Electric-Traced Bundled Tubing (Electric-Traced Customerd)

PSBT = 预制保温管
 Pre-Insulated Thermal-Proofed Tubing

* UTC offers the unique coating services for the customer' s bare tubes.
 We accept coiled (on or without reel) and straight tubes.
 Read more at our UTC special service section in this catalog.

II Material

SS = 316/316L Stainless Steel

CU = Copper

Inconel = 高镍合金管

PTFE = 普通聚四氟乙烯管

PFA = 可溶性聚四氟乙烯管

SISS = 硅钢管 Silicon Coated Tube

E.P.S.S = 电抛光管 Electrical Polished Tube

Other tubing materials may be offered on request

III Tube Data Size

Number per Inch, Number + M for MM size
 MM=6 , 10, 12, 18, 25

Inch: 4=1/4, 6=3/8, 8=1/2, 12=3/4, 16=1

Tube model
 S (Seamless) W (Welded)
 ST (Stick of 6M)

Wall Thickness Number per Inch, Number +M for MM size

IV Jacket Raw Material

TP = TPU

PV = PVC

V Length Number per feet Number + M per Meter

Marking

On each jacket tube will be a marking of the following:

Manufacturer name, model, Coating material, Tube data, Process temperature, Batch No. (for traceability), Meter/Feet count Optionally a Caution Notice



防腐蚀绝缘保护管 Single-Jacketed Preinsulated Tubing



UTC的包覆管可以有效保护316L管不受点蚀。
UTC Single Jacketed tube Protect the tube against corrosion and pitting in a diverse changing environment and climates.
The phenomenon of Chloride Stress Corrosion Cracking (SCC) where AISI 316L suffers external corrosion mostly occurs above 60 ° C in the offshore and coastal areas where salty and humidity conditions apply at all times. Installers and end users are seeking to use the UTC Single coated tube as a solution to overcome this phenomenon.

技术参数 | Technical Data

公制 Metric

Tube OD	Wall Thickness	Working Pressure		Max Process Temperature	Min Service and Installation Temperature	Min Jacket Tube OD*	Support Centers		Min Bend Radius					
		bar					m			cm				
mm	mm			C°	C°	mm	Horizontal	Vertical						
		Seamless	Welded											
Annealed 316 Stainless Steel Tubing complying with ASTM A213 or A269														
6	1.0	420	336	105 PVC Jacket	-34 Service	8.60	1.80	4.60	20.00					
	1.2	540	432											
	1.5	710	568											
10	1.0	240	192											
	1.2	300	240											
	1.5	400	320											
12	1**	200	160			125 TPU Jacket***				-23 Installation	14.60	1.80	4.60	20.00
	1.2	250	200											
	1.5	330	264											
	2.0	470	376											
18	1.2**	150	120	20.60	-23 Installation	27.60	1.80	4.60	20.00					
	1.5	200	160											
	2.0	290	232											
25	1.8**	180	144	27.60	-23 Installation	27.60	1.80	4.60	20.00					
	2.0	200	160											

*** Maximum process temperature NOT continuous temperature rating which is 105 Deg C according to UL 1581. Please contact us for more information about heat tolerance.

特点 | Features

1. 1/4" - 1" 或者 6-25mm 不锈钢316L管
 2. 无缝管或焊管乃至直管
 3. 可包覆TPU或PVC 其他护套材料请先咨询
1. 1/4 to 1 in. and 6 to 25mm tubing sizes available in 316/316L Stainless Steel and Copper. Other tubing materials maybe offered on request.
 2. Seamless, welded tubing and set tube stick available in Stainless Steel and Copper.
 3. Coating materials available: Thermoplastic Polyurethane TPU, PVC. Other coating materials available, please contact our customer service for more details.

英制 Fractional

Tube OD	Wall Thickness	Working Pressure		Max Process Temperature	Min Service and Installation Temperature	Min Jacket Tube OD*	Support Centers		Min Bend Radius					
		psig					ft			in.				
mm	mm			°F	°F	in.	Horizontal	Vertical						
		Seamless	Welded											
Annealed 316 Stainless Steel Tubing complying with ASTM A213 or A269														
1/4	0.035	5200	4160	221 PVC Jacket	-30 Service	0.35	6.00	15.00	8.00					
	0.049	7600	6080											
	0.065	10150	8120											
3/8	0.035	3350	2680			0.48				-30 Service	0.48	6.00	15.00	8.00
	0.049	4850	3880											
	0.065	6525	5220											
1/2	0.035**	2650	2120			0.60				-30 Service	0.60	6.00	15.00	8.00
	0.049	3750	3000											
	0.065	5150	4120											
3/4	0.083	6525	5220			0.85				-10 Installation	0.85	6.00	15.00	8.00
	0.049**	2450	1960											
	0.065	3350	2680											
	0.083	4250	3400											
1	0.065**	2100	1680	1.10	-10 Installation	1.10	6.00	15.00	8.00					
	0.083	2700	2160											

*一般包覆层厚度为1.3mm * Note: Standard Coating Wall Thickness 1.3mm (0.052")
 **燃气行业不推荐使用 **Note: Not recommended to use with Gas service
 ***需要其他信息请联系我们 ***Maximum process temperature NOT continuous temperature rating which is 105 Deg C according to UL 1581. Please contact us for more information about heat tolerance.

WARNING! For Your Safety the system designer have the sole responsibility to select the products suitable for their special application requirements and to ensure the proper installation, operation and maintenance of the product. Please consider application details, material compatibility and product ratings when making your selection. Improper selection or use of products can cause property damage and or personal injury.

UTC裸管包覆服务 UTC special service - Your Tube, Our Jacket*

UTC可以提供盘管或直管包覆服务 - 即客户提供管材后UTC进行包覆加工, 可以做TPU或PVC包覆。
UTC offers its customers the unique coating service. We accept coiled (on or without reel) and straight tubes that request jacketing service. We will pick up the tubes from the customer location, coat it and ship it back. Our coating materials also include the special TPU cover, high quality low temperature PVC as well as other coating materials that may be offered on customer request.

* Service is offered according to the minimum length quantity policy, please contact our customer service for more details

外护套材料 Jacket Materials

UTC所用的特种TPU拥有极好的抗腐蚀性且不含氯化物。

UTC所用的特种PVC可以在极端低温下保持良好的机械性能和阻燃性能。

UTC Special TPU is a part of the Thermoplastic Polyurethane family that has unique properties such as the ability to meet low temperature environment, excellent abrasion resistance and contains no chlorides.

The UTC special PVC outperform the standard PVC properties and its special composition allows to work in an extreme low temperature with high flame retardant resistance.

护套性能 Jacket Properties	Standard 105C PVC	UTC TPU
最高工作温度 Maximum temperature	105° C (221° F)	125° C(257° F)***
最低安装温度 Minimum installation temperature	-10° C (-14° F)	-40° C (-40° F)
最低工作温度 Minimum service temperature	-10° C (14° F)	-58° C (-72° F)
硬度硬度 Hardness - Shore A	95 A	90 A
抗拉强度 Tensile strength	2000 psi (137 bar)	4,655 psi (320 bar)
吸水性 Water absorption	1,500-3,000ppm	5,000-7,000ppm
阻燃等级 Flame retardant	V2	V0 (3mm)
抗紫外线等级 UV resistance	F	E
抗腐蚀 Abrasion resistance	G	E
是否含氯化物 Halogenated (Chlorides)	YES	NO

P = Poor, F = Fair, G = Good, E = Excellent.

PVC

Jacket Properties	UTC PVC	Test Method
Maximum temperature	105° C (221° F)	BS 6746
Minimum installation temperature	-10° C (-14° F)	
Minimum service temperature	-40° C (-40° F)	
Hardness - Shore A	93 A	ASTM D 2240
Tensile strength	2900 psi (194 bar)	ASTM D 638
Water absorption	1,500-3,000ppm	
Flame retardant	V0	UL 94
UV resistance	750 h	UL-1581
Abrasion resistance	200-300	
Halogenated (Chlorides)	Halogenated	

Superior Properties

- High Hardness
- Good in lower temperature
- Good Abrasion
- Coil ability
- UV Stabilized
- Flame retardant

UTC's PVC meet the following standards:

BS 6746 TYPE 5
DIN/VDE 0207 Y18, YM4
MIL-W-16878
UL 1581 - TYPE 105C

TPU

Jacket Properties	UTC PVC	Test Method
Maximum temperature	125° C (257° F)	ISO 868
Minimum installation temperature	-40° C (-40° F)	
Minimum service temperature	-58° C (-72° F)	
Hardness - Shore A	90 A	ISO 527
Tensile strength	4,655 psi (32.1 MPa)	
Water absorption	5,000-7,000ppm	UL 94
Flame retardant	V0 (3mm)	UL-1581
UV resistance	2000 h	ISO 4649
Abrasion resistance	65 (mm3 loss)	
Halogenated (Chlorides)	Zero Halogen	

Superior Properties

- Toughness
- Excellent Abrasion resistant
- Hydrolysis resistant
- Chemical and oil resistant
- Weather resistant
- Bacteria resistant
- Low friction
- Cold flexibility
- Matt surface
- Coil ability
- Flame retardant

***Maximum process temperature NOT continuous temperature rating which is 105 Deg C according to UL 1581.
Please contact us for more information about heat

How to order

Build a Single, Thermal insulated or Own customer jacket tubing ordering number by combining the designators in the sequence shown below.

I **II** **III** **IV** **V**
SJ - **SS** - **4-S-35** - **TP** - **250**

I Model

SJ = Single Jacket

TJ = Thermal-Insulated Jacket

CT = Customer Tube*

* UTC offers the unique coating services for the customer's bare tubes.
We accept coiled (on or without reel) and straight tubes.
Read more at our UTC special service section in this catalog.

II Material

SS = 316/316L Stainless Steel

CU = Copper

Other tubing materials may be offered on request

III Tube Data Size

Number per Inch, Number + M for MM size

MM=6, 10, 12, 18, 25

Inch: 4=1/4, 6=3/8, 8=1/2, 12=3/4, 16=1

Tube model

S (Seamless) W (Welded)

ST (Stick of 6M)

Wall Thickness

Number per Inch, Number +M for MM size

IV Jacket Raw Material

TP = TPU

PV = PVC

V Length

Number per feet

Number + M per Meter

Specifications are for reference only and are subject to change without notice Actual product dimensions may vary from the catalog dimensions

Marking

On each jacket tube will be a marking of the following:

Manufacturer name, model, Coating material, Tube data, Process temperature, Batch No. (for traceability), Meter/Feet count Optionally a Caution Notice.

安装附件 Accessories



AGD-进箱格兰

AGD进箱格兰，在管缆进入仪表箱或其他箱体时起到锁紧及防水的作用

可用于密封管缆末端，起到防潮防油防腐蚀的作用
容量：20ml/支
防水密封硅胶SL-20工作温度：-40到200 °C

型号	螺纹接口	锁紧尺寸
AGD-400	M40*1.5	22mm-32mm
AGD-500	M50*1.5	32mm-38mm
AGD-630	M63*1.5	37mm-44mm
AGD-631	M63*1.5	44mm-52mm
AGD-720	M72*2.0	51mm-57mm



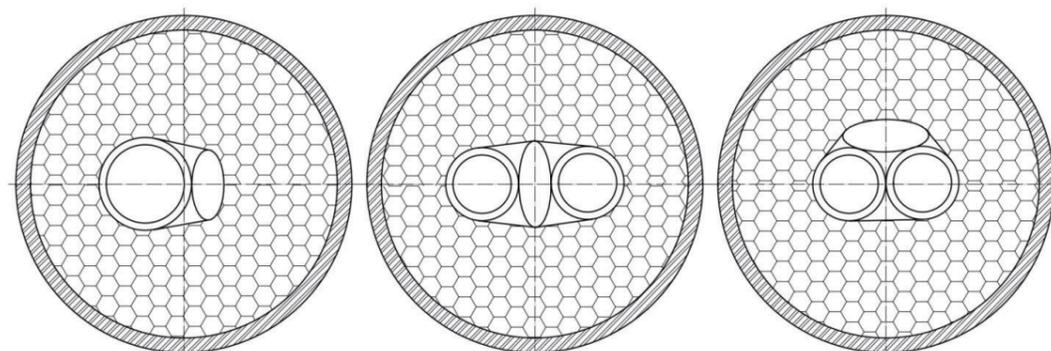
APB-保护靴套

APB保护靴套，由热塑材料制作而成。主要用于管缆与仪表、阀门或其他管道连接时，以保护管缆的切/剥端，以防止保温受潮。



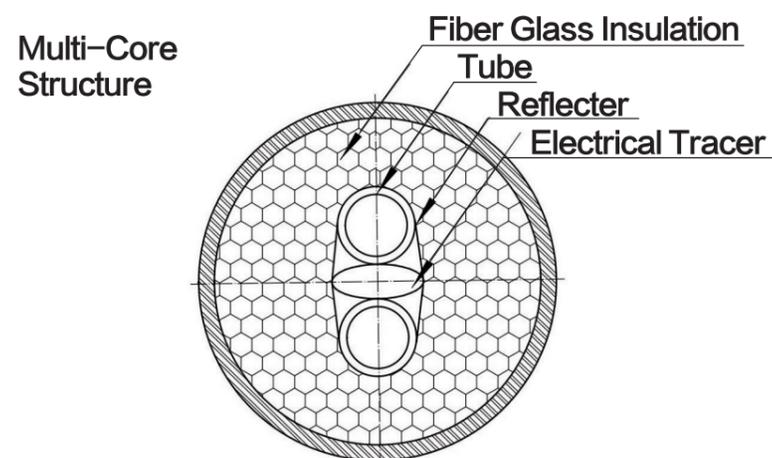
Products

Electrical Tracing Tubing Bundle-EBT

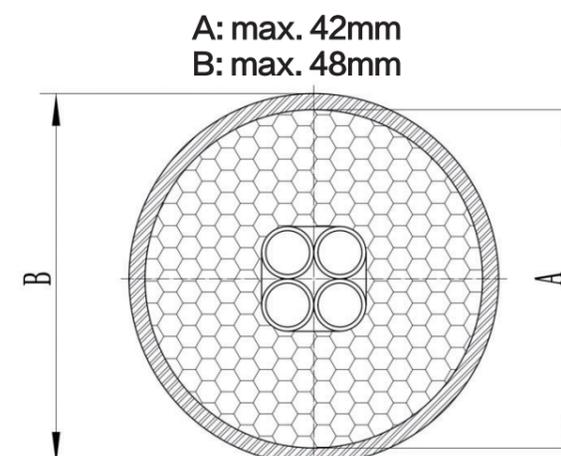


Single Core to Tubing Bundle-EBT

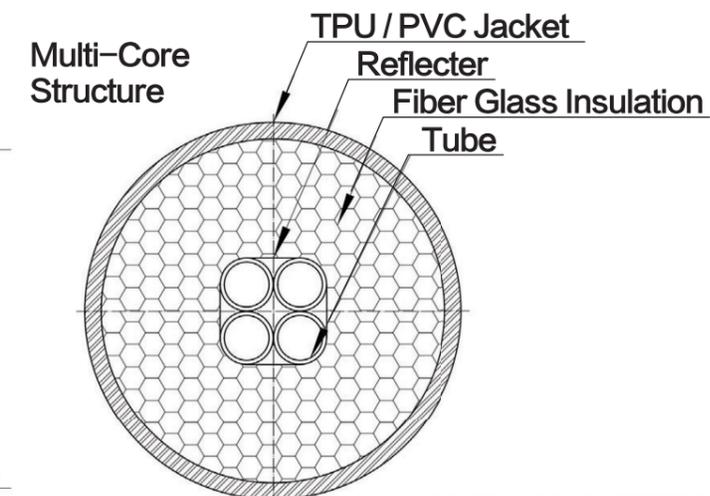
Electrical Tracing Tubing Bundle-EBT



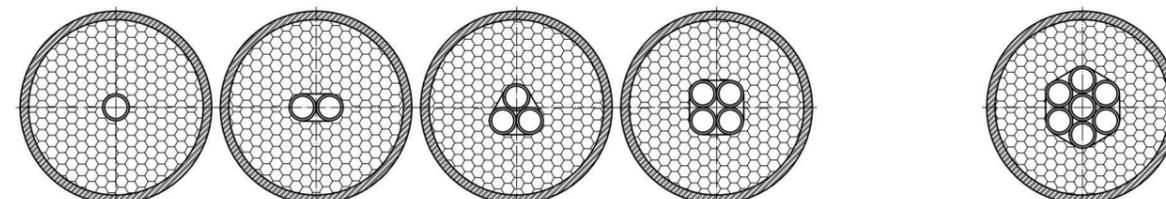
Pre-insulated(fiber-glass) Tubing Bundle-TSBT



Electrical Tracing Tubing Bundle-EBT



Pre-insulated(fiber-glass) Tubing Bundle-TSBT



Single Core to Multi Core-up to 7 Cores

Our Vision

Our goal is become a world class leading manufacturer and supplier of coated instrumentation tubes while using an advanced technology solution to provide our customers with their needs for the best high quality coated Single coiled tubes & Thermal insulated tubes.





联系信息

联系人:

电话:

公司:

邮箱:

1.最低环境温度: _____ (° C)

2.希望达到的维持温度: _____ (° C)

3.管路内介质的最高温度: _____ (° C)

4.能提供的电源电压: _____ V (请注明直流还是交流)

5.保温箱尺寸:

高: _____ (mm)

宽: _____ (mm)

深: _____ (mm)

6.需要保温的管路的外径 _____ (in 或者 mm)

7.管材: _____ (盘管/直管; 316L/304/铜管/PFA/PTFE/其他材料; 焊管/无缝管)

8.如果是直管, 单根长度: _____ (mm)

9.玻璃纤维保温层厚度: _____ (mm)

10.防爆等级Hazardous area classification:

Class 1, Division 2, Groups A,B,C,D _____

Class 1, Division 1, Groups C,D _____

Class 1, Division 1, Groups A,B, C, D _____

ATEX EEXd IIC _____

其他 _____ (请注明)

11.安装方式: _____ (水平还是垂直)