



东莞市国旭电子通讯有限公司

Dongguan Guoxu Electronics Communication Co.,Ltd.

规格承认书

SPECIFICATION FOR APPROVAL

日期 2014 / 03 / 03

Date

编号 14030301

File No

版本 1.0

Revision

客户 万创科技

CUSTOMER: _____

客户料号

CUSTOMER NO: _____

品名 2.4GHz Antenna

PART NAME: _____


供方料号 GX042S.100001.S01

SUPPLIER NO: _____

送样日期Date: 2014.03.03

送样数量Q"TY: PCS

客户确认CUSTOMER APPROVED BY		
APPROVAL	CHIEF	SUPERVISOR

供方确认 SUPPLIER SIGNATURE		
APPROVAL	CHECK	DESIGN
 CrenGuoqiang	Maggie	QinJianyu



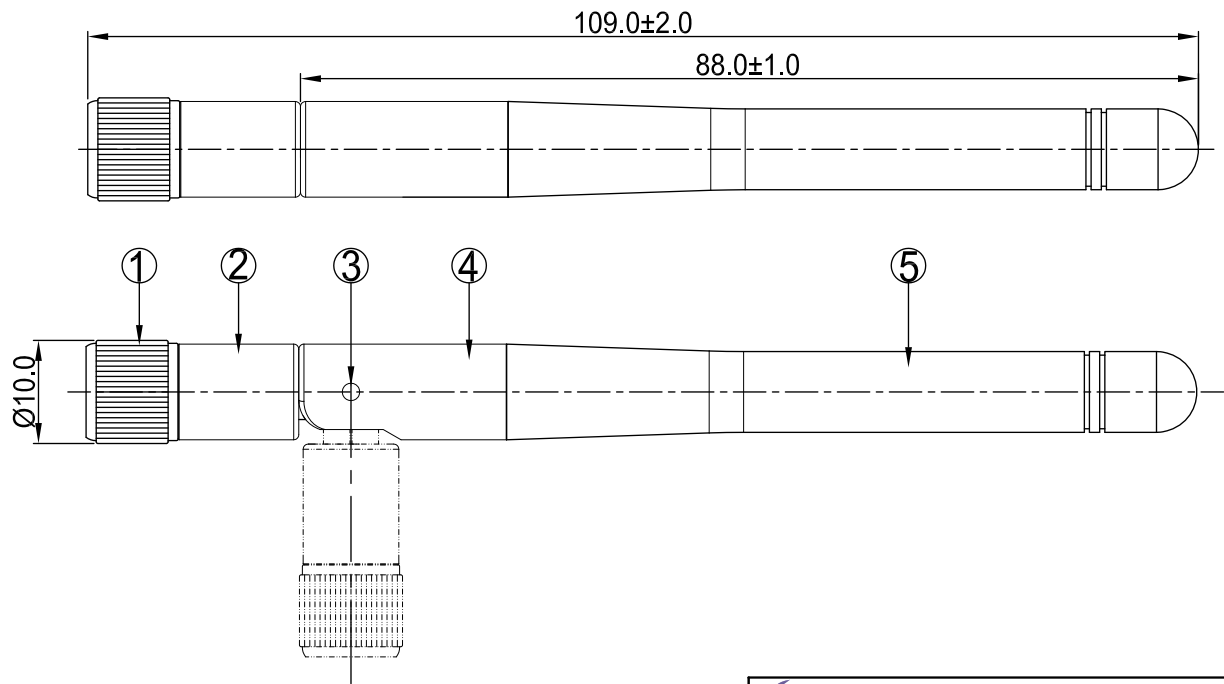
承认书项目表

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9	N/A	N/A	N/A
10	-	-	-
11	-	-	-
12	-	-	-


RoHS
Compatible

CUSTOMER	
PART NO	


REV.	DESCRIPTION	DATE
△	首次发行	2013.04.10



5	Antenna Cap	TPE ,Color:Black	PLA10004A.B01	1
4	Upper Base	PC, Color:Black	PLA10020A.B01	1
3	Rivet	POM, Color:Black	PIN10001A.B01	2
2	Bottom Base	PC, Color:Black	PLA10030A.B01	1
1	SMA Male	Cu, Black	CON10069A.P01	1
NO	PART NAME	DESCRIPTION	Part Number	Q.TY


东莞市国旭电子通讯有限公司
 Dongguan GuoXu Electronics Communication Co.,Ltd.

Tel:0769-85535057
 Fax:0769-81664308

PART NAME: 2.4GHz Antenna			DATE: 2013-04-10
PART NO.: GX042S.100001.S01			
APPROVED BY	CHECKED BY	DESIGNED BY	 Tolerance X.X ±0.50 X.XX±0.15 X° ±3°
		覃剑勇	
			UNITS: mm SCALE: 1/1 REVISION: A



电性测试报告

Test Reports

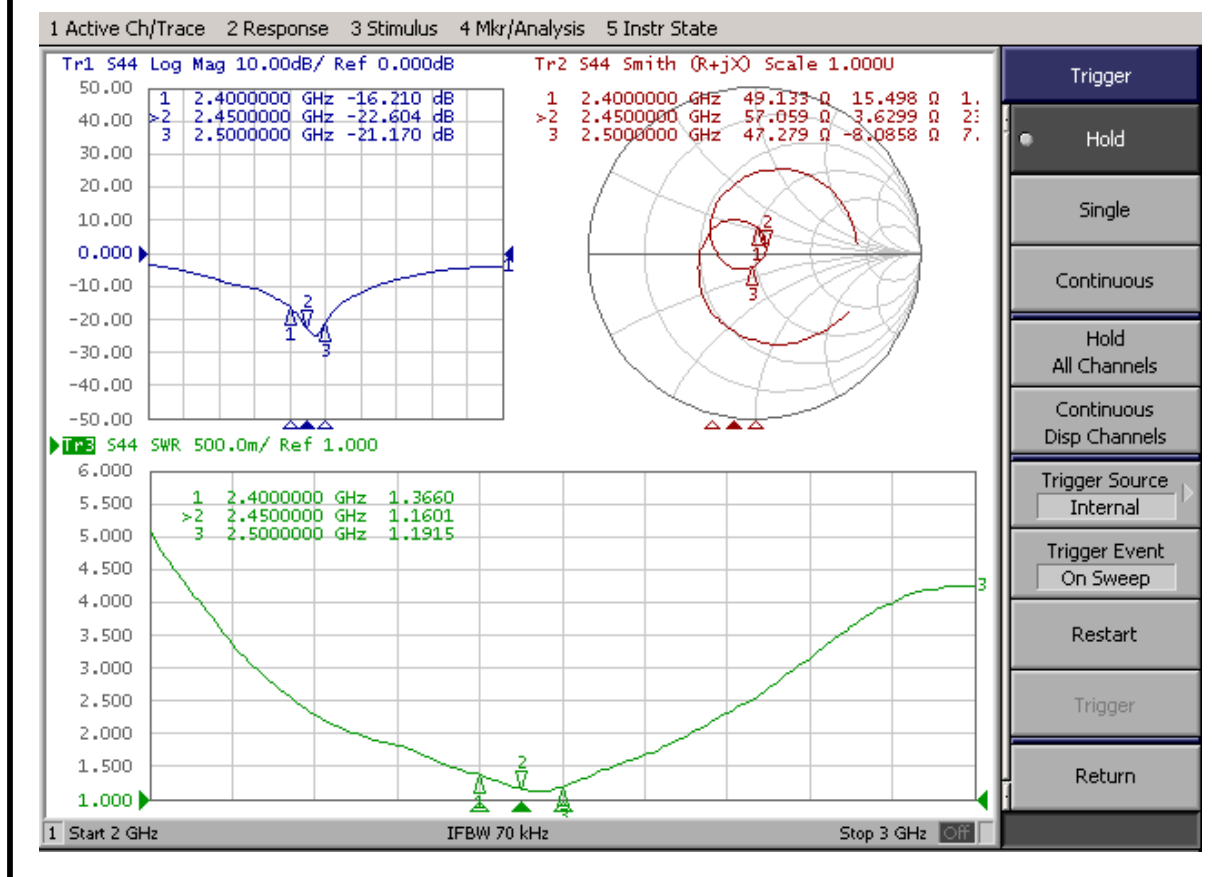
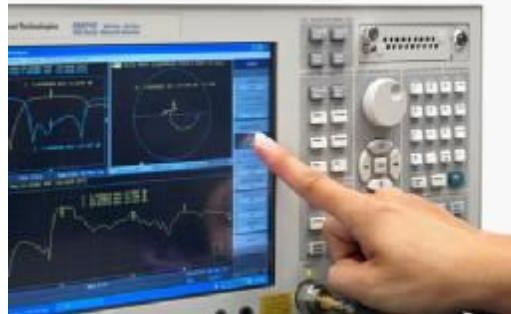
Electrical Properties	
Frequency	2.4GHz
Impedance	50 Ohm Nominal
V.S.W.R	1.92 : 1 Max
Return Loss	-10 dB Max
Radiation	Omni-directional
Gain (Peak)	3.0 dBi
Cable Loss	2.3 dB / m Max @ 2450 MHz
Polarization	Linear, Vertical
Admitted Power	1 W
Connector	SMA Male
Physical Properties	
Antenna Material	TPE / PC / Cu / POM
Cable Type	RG-178
Operating Temp.	-10 ~ +60 °C
Storage Temp.	-10 ~ +70 °C
Cable Color	Black



S 参数测试

S Parameter Test

Agilent E5071C

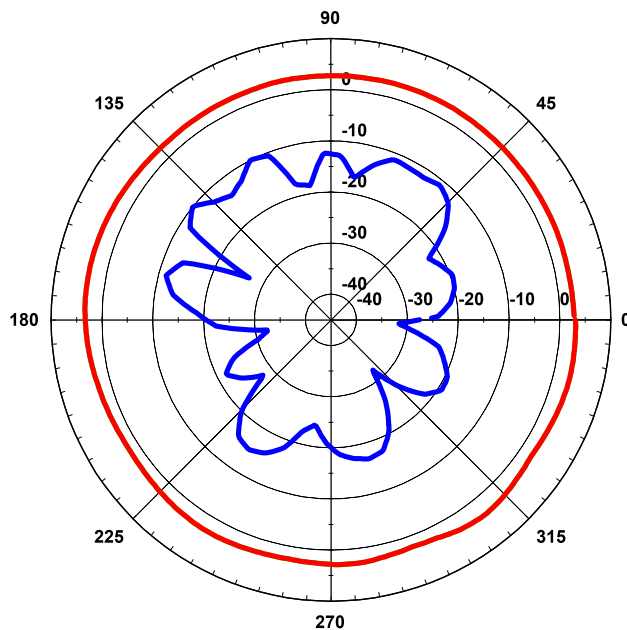
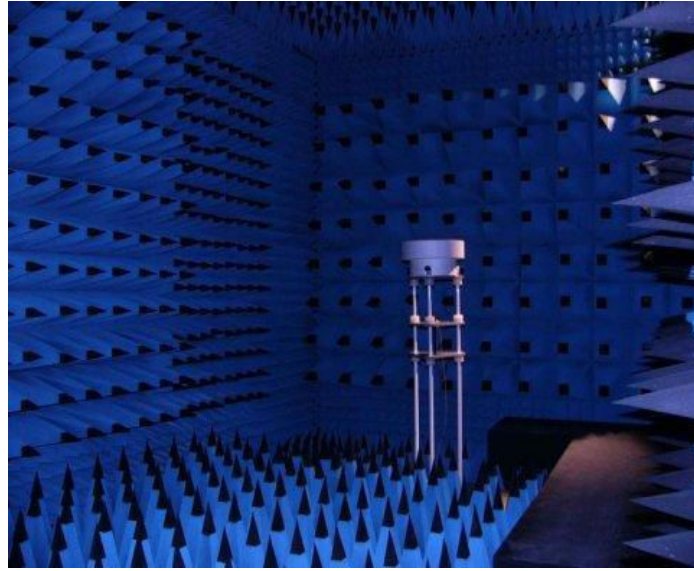




增益测试

Gain Test

*Antenna
Radiation
Pattern
VS
Gain*





長春人造樹脂廠股份有限公司

台北市 10477 松江路三零一號七樓

CHANG CHUN PLASTICS CO.,LTD.

NO.301 SONGKIANG ROAD, 7FL., TAIPEI, TAIWAN, R.O.C.

TEL: 886-2-25038131

FAX:886-2-25033378

材質證明

MATERIAL FORMULATION CONFIDENTIAL REPORT

材質名稱 Type of Material : TPEE(Thermoplastic Polyether-ester Elastomer)
熱塑性聚醚酯彈性體

規格 Grade : TPEE 1140, 1155, 1163, 1172

說明 Description :

TPEE 1140, 1155, 1163, 1172 熱塑性聚醚酯彈性體包含 TPEE 純樹脂及添加劑。TPEE 1140, 1155, 1163, 1172 完全符合 RoHS 指令的規定。且所有組成都包含在中國 IECSC 化學資料庫中。The raw material of TPEE 1140, 1155, 1163, 1172 contains TPEE pure resin and a few of additives. We certify that our TPEE1140, 1155, 1163, 1172 can be according with RoHS regulation. Moreover, all the components of this product is list in the China chemical inventory IECSC.

TPEE 1140, 1155, 1163, 1172 成分表

Chemical Composition of TPEE 1140, 1155, 1163, 1172

規格 Grade TPEE 1140, 1155, 1163, 1172				
組成 Chemical Composition		Molecular formula	CAS Number	含量(%) Content (%)
1	TPEE樹脂 TPEE resin	(1) Chemical formula $(C_{10}H_{10}O_4 \cdot C_4H_{10}O_2 \cdot (C_4H_8O)_nH_2O)_x$	9078-71-1	>99%
2	添加劑 Additives	NA	NA	0.2-1%

TPEE Grade	Component 單體組成	Ratio 組成比例
1140	DMT/BDO/PTMEG	1 : 1 : 1.3
1155	DMT/BDO/PTMEG	1 : 1 : 1.0
1163	DMT/BDO/PTMEG	1 : 1 : 0.7
1172	DMT/BDO/PTMEG	1 : 1 : 0.4

DMT: Dimethyl Terephthalat 對苯二甲酸二甲酯

BDO: 1,4-Butanediol 1,4-丁二醇

PTMEG: PolyTetramethylene-ether-Glycol 聚四氫呋喃

MATERIAL SUPPLIER

Company: CHANG CHUN PLASTICS CO., LTD KAOHSIUNG FACTORY

Signature: Ching-Neng Tseng / Chief Manager / Technical Section

Address: No.14 KUNG-YEH 1ST ROAD. JEN-WU INDUSTRIES DISTRICT
KAOHSIUNG, TAIWAN, ROC.

Date: June. 07, 2010



Panlite L-1250Z 100

Category	Unit	Test Method	Condition	L-1250Z 100
Melt volume flow rate	cm ³ /10min	ISO 1133	300deg.C load 1.2kg	8
Density	kg/m ³	ISO 1183	-	1200
Water absorption rate	%	ISO 62	in water 23deg.C 24h	0.2
Light transmission	%	ASTM D 1003	thickness 3mm	88
Refractive index	-	ASTM D 542	-	1.585
Tensile modulus	MPa	ISO 527-1 and ISO 527-2	1mm/min	2400
Tensile stress at yield	MPa		50mm/min	61
Tensile strain at yield	%		50mm/min	6
Nominal tensile strain at break	%		50mm/min	>50
Flexural modulus	MPa	ISO 178	2mm/min	2350
Flexural strength	MPa		2mm/min	93
Charpy impact strength	kJ/m ²	ISO 179	unnotched	NB
			notched	76
Heat deflection temperature	deg.C	ISO 75-1 and ISO 75-2	1.80MPa	129
			0.45MPa	142
Vicat softening temperature	deg.C	ISO 306	50deg.C/h 50N	149
Mold shrinkage	%	In-house method	parallel	0.5-0.7
			vertical	0.5-0.7
Coefficient of linear expansion	×10 ⁻⁴ /k	ISO 11359-2	parallel	0.7
			vertical	0.7
Specific inductive capacity	-	IEC 60250	100Hz	3.1
	-		1MHz	3
Dielectric loss tangent	×10 ⁻⁴	IEC 60250	100Hz	10
	×10 ⁻⁴		1MHz	90
Volume resistivity	ohm-m	IEC 60093	-	>1×10 ¹³
Surface resistivity	ohm	IEC 60093	-	>1×10 ¹⁵
Withstand voltage	MV/m	IEC 60243-1	short time test	30
Tracking resistance	-	IEC 60112	-	250
Flammability	-	UL 94	-	V-2(0.40mm) HB(1.5mm)
Temperature index	deg.C	UL 746B	electric 1.47mmt	125
			impact 1.47mmt	115
			non-impact 1.47mmt	125

* The values listed are specification values, not certified values.

产品质量证明书

客户	通用		日期	2010. 08. 10	
品名	规格	状态	制造方法	数量	
H65 (镀锡铜管)	1.0-25	H	拉制		
化学成分	铜(Cu)	铁(Fe)	铅(Pb)	锌(Zn)	其它杂质
	64.88%	0.012%	0.014%	35.094%	0.003%
机构性能	抗拉强度 (不少于)	延伸率 (不少于)	直径公差	壁厚公差	

审核：胡偉林

化驗員：李紅花

无锡源达电工材料有限公司

WUXI YUANDA ELECTRICAL MATERIAL CO., LTD.

中国江苏省江阴市青阳镇南陈村 邮编 214401

Nachen, Qingyang Town, Jiangyin City 214400, Jiangsu, China

1. 适用范围:

Scope

本规格书制定了 50 Ω FEP 绝缘射频电缆 YD178 系列的结构和电气特性。

This specification covers the construction and the electrical properties of YD178 series of 50 Ω FEP Insulation Coaxial Cable.

2. 结构/Construction:

单位/Unit:mm

项目/Item	详细资料/Details
导体/Conductor	材料/Material 镀银铜线/Silver-coated Copper Wire
	构成(根/mm) Composition(No./mm) 7/0.102
	标称直径/Nom. O. D (mm) 0.306±0.03
绝缘层 /Insulation	材料/Material 聚四氟乙烯/PTFE
	标称绝缘厚度/Nom. Thick (mm) 0.275
	标称外径/Nom. O. D (mm) 0.86±0.03
屏蔽层/Shield	材料/Material 镀银铜线/Silver-coated annealed copper wire
	构成/Composition 0.10 单线编织/Single Braid of 0.10
护套/Jacket	材料/Material 聚全氟乙丙烯(*颜色)/FEP(*color)
	标称护套厚度/Nom. Thick (mm) 0.25
	标称外径/Nom. O. D (mm) 1.80±0.08
	颜色/Color 按与客户确认的颜色/According to corresponding have approved by the suppliers and customers

3. 电气特性(20℃时)/Electrical Properties(at 20℃)

项目/Item	单位/Unit	详细资料/Details
导体电阻/Conductor Resistance	Ω/km	Max. 320
绝缘电阻/Insulation Resistance	MΩ.km	Min. 500
耐压强度/Dielectric Strength	V(AC)/min	1000
静电容/Capacitance	pF/m	105(1kHz)
特性阻抗/Characteristic Impedance	Ω	50±2.0
衰减/Attenuation	dB/m	1GHz 1.70
		2GHz 2.42
		3GHz 3.08

无锡源达电工材料有限公司

WUXI YUANDA ELECTRICAL MATERIAL CO., LTD.

中国江苏省江阴市青阳镇南陈村 邮编 214401

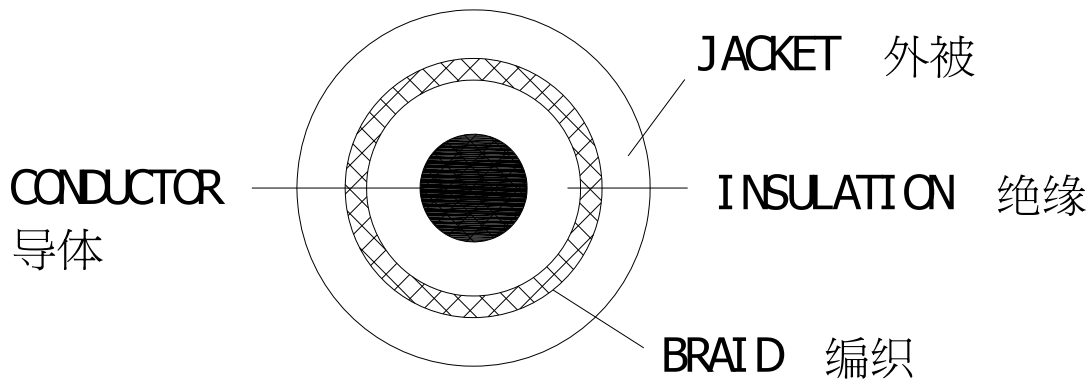
Nachen, Qingyang Town, Jiangyin City 214400, Jiangsu, China

		4GHz	3.63
		5GHz	4.15
		6GHz	4.80
驻波比/Standing wave (0-6GHz)	/	≤1.35	

4. 包装 Packing

标准单位包装长度为 500 米/盘, 每盘最多允许 3 个接头, 接头最短长度 20 米, 在搬运过程中不能损坏包装.

Standard unit length of finished cable shall be 500m on reel, frequency of joint max.3/reel, the mini length is 20m. The finished cable shall be packed not be damaged during transportation

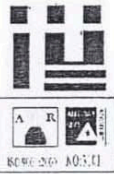


本产品有时不适合车载用途的情况也有,所以使用前请先和本公司业务部门进行商谈.

This product is not suitable for automobile application in some cases. Please contact with our sales department before you use this product.

规格书完

End of specification



SHIYANG (ZHONG SHAN) METAL PRODUCTS CO.,LTD

世扬金属制品有限公司

TEST CERTIFICATE

材质证明书



CLIENT 客户									certificate NO. 证明书号	070127-15
name article 品名	Brass									
LOT NO.	SIZE(MM)	OUTW GT	DESIGNATION	Cu(%)	Pb(%)	Fe(%)	Fe+Sn(%)	Cd(%)	Zn(%)	REMARK
	STANDARD	(KG)	JISC3604	57~61	1.8~3.7	≤0.5	≤1.2	≤0.0075	REM	
7916	14.5 φ		JISC3604	58.92	2.986	0.446	0.971	0.0042	REM	
<p>兹证明本表所列产品,均依材料规格制造及试验,并符合规格之要求。 WE HEREBY CERTIFY THAT MATERIAL DESCRIBED JERE IN MAS BEEN MANUFACTURED AND TESTED WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE REQUIREMENT OF THE ABOVE MATERIAL SPECIFICATION.</p>										

MANAGER: 曾敦毅

PABLE: 李玉奎

DATE:

THE THREE INDUSTRIAL AREA NAN LANG TOWN ZHONG SHAN CITY

TEL: 0760 5214770

FAX: 0760 5214760

PTFE

SHANGHAI

VALQUA FLUOROCARBON PRODUCTS CO. LTD.

PROPERTIES OF PTFE PRODUCTS

MECHANICAL PROPERTIES	項目	測試值	單位	試驗方法
Tensile Strength (Molding Direction)	拉伸強度	9.8-34	MPa	ASTM D638
Elongation at Break (Molding Direction)	伸長率	100-400	%	ASTM D638
Density	比重	2.13-2.25	—	ASTM D792
Hardness	硬度	50-55	杜羅硬度計	ASTM D2240
Flexural Modulus @0.2% offset, 23°C	彎曲強度	—	MPa	ASTM D790
Flexural Modulus @23%	彎曲模量	350-550	MPa	ASTM D790
Compressive Strength @0.2% offset, 23°C	壓縮強度	7.7-11.8	MPa	ASTM D695
ELECTRICAL PROPERTIES	項目	測試值	單位	試驗方法
Dielectric Strength @Air(Tape)@Oil(Extrusion/ Molding)	絕緣強度	19.2	KV/mm	ASTM C149
Dielectric Constant	介電常數	1.95-2.1	—	ASTM D150
Dissipation Factor @60Hz @10 ⁶ Hz	介質損耗	<0.0002	(60Hz)	ASTM D150
		<0.0002	(10 ⁶ Hz)	
Resisivity @Surface @Volume	表面電阻	>10 ¹⁶	歐姆	ASTM D257
	體積電阻	>10 ¹⁸	歐姆 cm	
THERMAL PROPERTIES	項目	測試值	單位	試驗方法
Point of Fusion DSC	熔點	327±10	°C	ASTM D792
Max. Working Temperature	耐熱溫度	260	°C	—
Thermal conductivity @Molding Direction(MD)	導熱系數	1.9	10 ⁻⁶ W/(m.k)	ASTM
WEAR PROPERTIES	項目	測試值	單位	試驗方法
Coefficient of Dynamic Friction	動磨擦系數	0.1	—	0.7MPa3M/minS TEEL