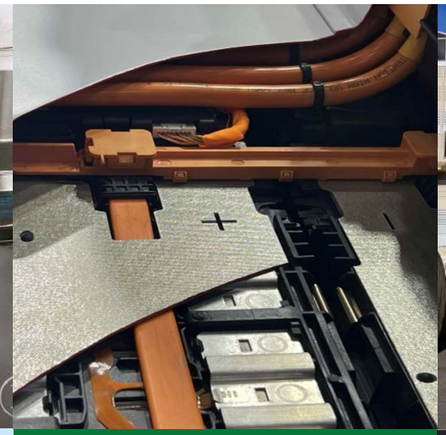
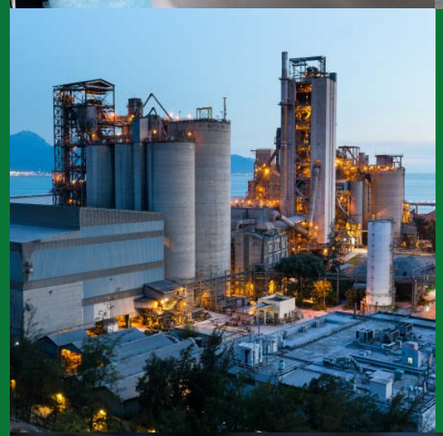
YUCHANG E&C CO.,LTD.

#22, Barangongdan-ro 4-gil, Hyangnam-eup, Hwaseong-si, Gyeonggi-do, South Korea
Tel. +82-31-354-2800 / +82-31-354-4852~4 Fax. +82-31-354-4851 Email. ycec@ycec.kr

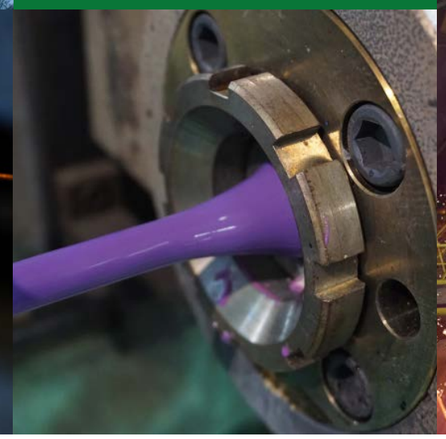
YUCHANG E&C

STANDARD PRODUCT GUIDE






With customer value
The best product
The better future

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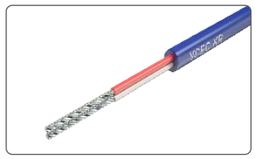
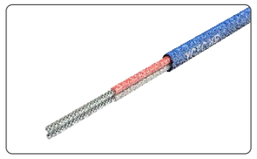
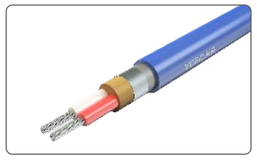
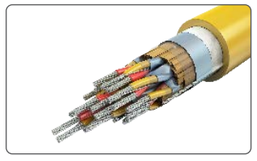




CONTENTS

GREETINGS

Over the 35 years, Yuchang E&C. has been providing the highest quality T/C extension and compensating cables to customers of various fields.

From plant industries (iron manufacture, chemical fibers, petroleum)to shipping and automobiles industries, Yuchang E&C. has made every effort to ensure the best flow of the heat and automatic controls. As robotics and auto-controls marked major milestones in industrial growth, the importance of accurate temperature control has never been so emphasized. Thus, Yuchang E&C. promises to continue providing the best quality products as well as the best follow-up services to each customer

YUCHANG E&C CO.,LTD.

Company History

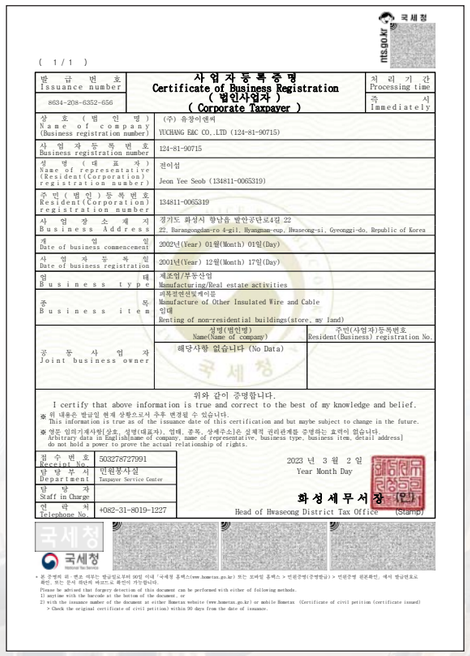
- 1988 Established 'Yuchang Electrics'
- 1995 Factory located at Bong- dam eup, Hwaseong si, Kyung-gi do
- 1996 Renamed as 'Yuchang Instruments and Electrics'
- 2001 Certified ISO 9001
- 2002 Converted to 'Yuchang E&C Co., LTD.'
- 2002 Factory located at Hyangnam-eup, Hwaseong si, Kyung-gi do
- 2006 Certified ISO 14001

- 2008 Certified Korea Standard (KS C1609)
- 2008 Acquired Electrical Appliances Safety Certificate on FR-CVV
- 2010 New factory built at Bal-An Industrial Complex
- 2011 New R&D division (approved by Koita) built
- 2011 Certified 'Innovation-driven enterprise' by Mainbiz
- 2012 Certified UL 1330, 1331, 1332, etc (Fluoropolymer wire)
- 2014 Selected as 'Outstanding company' (by Ministry of Employment & Labor)

- 2015 Enterprise Specializing in Materials & Parts (by Ministry of Trade, Industry and Energy)
- 2017 Certified UL 13(PLTC)
- 2018 Certified UL 1726, 1727
- 2021 Certified UL 4648, 4649
- 2021 Wire Harness Business Started
- 2023 YAGEO Nexensos distributor
- 2024 Awarded the 3 Million Dollar Export Tower

Certificate

Business Registration



(1 / 1)

국세청 nts.go.kr

발급번호 Issuance number	사업자등록증명 Certificate of Business Registration (법인사업자) (Corporate Taxpayer)	처리기간 Processing time
8634-208-6352-656		즉시 Immediately

상호(법인명) Name of company (Business registration number)	(주)유창이엔씨 YUCHANG E&C CO.,LTD (124-81-90715)
사업자등록번호 Business registration number	124-81-90715
성명(대표자) Name of representative (Resident(Corporation) registration number)	전이섭 Jeon Yee Seob (134811-0065319)
주민(법인)등록번호 Resident(Corporation) registration number	134811-0065319
사업장소재지 Business Address	경기도 화성시 향남읍 발안공단로4길 22 22, Baranggongdan-ro 4-gil, Hyangnam-eup, Hwaseong-si, Gyeonggi-do, Republic of Korea
개업일 Date of business commencement	2002년(Year) 01월(Month) 01일(Day)
사업자등록정정일 Date of business registration	2021년(Year) 12월(Month) 17일(Day)
업태 Business type	제조업/부동산업 Manufacturing/Real estate activities
종목 Business item	리처절연전선및케이블 Manufacture of Other Insulated Wire and Cable 임대 Renting of non-residential buildings(store, my land)
공동사업자 Joint business owner	상호(법인명) Name(Name of company): 해당사항 없습니다 (No Data) / 주민(사업자)등록번호 Resident(Business) registration No.:

위와 같이 증명합니다.
I certify that above information is true and correct to the best of my knowledge and belief.

※ 위 내용은 발급일 현재 상황으로서 추후 변경될 수 있습니다.
This information is true as of the issuance date of this certification and but maybe subject to change in the future.

※ 영문 성명(서명)은(는), 상호(대표자), 업태, 종목, 상세주소는 실제의 권리관계를 증명하는 효력이 없습니다.
Arbitrary data in English(name of company, name of representative, business type, business item, detail address) do not hold a power to prove the actual relationship of rights.

접수번호 Receipt No.	50327872991
담당부서 Department	안판봉사업 Taxpayer Service Center
담당자 Staff in Charge	
연락처 Telephone No.	+082-31-8019-1227

2023 년 3 월 2 일 Year Month Day

화성세무서장 (인) Head of Hwaseong District Tax Office (Stamp)

국세청 National Tax Service

* 본 증명에 관한 사실 여부는 발급일로부터 30일 이내 「국세청 홈택스(www.hometax.go.kr) 또는 모바일 홈택스 > 민원증명(신청/발급) > 민원증명 신청확인, 세무 민원센터로 확인」 하는 절차 이후에 제출하는 확인이 가능합니다.
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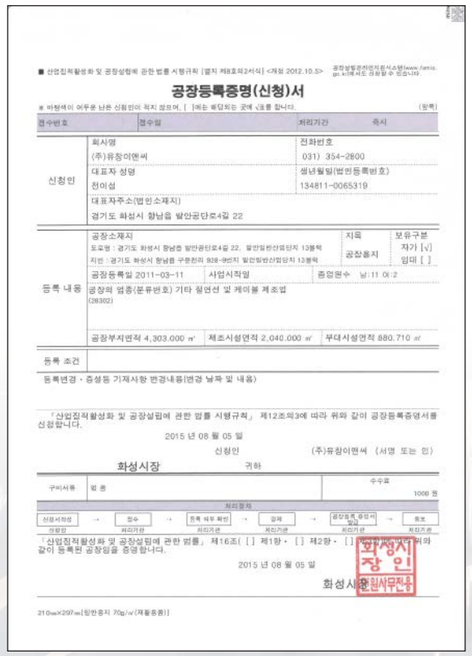
Business Registration Number



■ 산업집적활성화 및 공장설립에 관한 법률 시행규칙 [별지 제8호의2서식] <개정 2012.10.5>

공장등록증명(신청)서

※ 바탕색이 어두운 난은 신청인이 적지 않으며, [ ]에는 해당되는 곳에 √표를 합니다. (앞쪽)

접수번호	접수일	처리기간	즉시

신청인	회사명	전화번호	
	(주)유창이엔씨	031) 354-2800	
	대표자 성명	생년월일(법인등록번호)	
	전이섭	134811-0065319	
	대표자주소(법인소재지)		
	경기도 화성시 향남읍 발안공단로4길 22		

등록 내용	공장소재지	지목	보유구분
	도로명 : 경기도 화성시 향남읍 발안공단로4길 22, 발안일반산업단지 13블럭 지번 : 경기도 화성시 향남읍 구문친리 808-9번지 발안일반산업단지 13블럭	공장용지	자가 [√] 임대 [ ]
	공장등록일 2011-03-11	사업시작일	종업원수 남:11 여:2
	공장의 업종(분류번호) 기타 절연선 및 케이블 제조업 (28302)		
	공장부지면적 4,303.000 ㎡	제조시설면적 2,040.000 ㎡	부대시설면적 880.710 ㎡
등록 조건			

등록변경 · 증설등 기재사항 변경내용(변경 날짜 및 내용)

「산업집적활성화 및 공장설립에 관한 법률 시행규칙」 제12조의3에 따라 위와 같이 공장등록증명서를 신청합니다.

2015 년 08 월 05 일

신청인 (주)유창이엔씨 (서명 또는 인)

화성시장 귀하

구비서류	없 음	수수료	1000 원

처리절차

신청서작성	→	접수	→	등록 여부 확인	→	검토	→	공장등록 증명서 발급	→	통보
신청인		처리기관		처리기관		처리기관		처리기관		처리기관

「산업집적활성화 및 공장설립에 관한 법률」 제16조[ ] 제1항 · [ ] 제2항 · [ ] 제3항 · [ ] 제4항 · [ ] 제5항 및 같은 법 시행규칙 제마 같이 등록된 공장임을 증명합니다.

2015 년 08 월 05 일

화성시장 화성시장인 원시무인장

210mm×297mm[백상지 70g/㎡(재활용품)]

Factory Certificate

CERTIFICATE OF APPROVAL

YUCHANG E&C Co., Ltd.

22 BARANGONGDAM-RO 4-GIL, HYANGNAM-EUP, HWASEONG-SI, GYEONGGI-DO, KOREA

Korean Standards Association hereby certifies that the Quality Management System of the above organization has been assessed and found to meet the requirements of the standard and scope of certification detailed below:

CERTIFICATION No. QMS-3962

STANDARD KS Q ISO 9001:2015/ISO 9001:2015

SCOPE OF CERTIFICATION

DESIGN, DEVELOPMENT, PRODUCTION OF EXTENSION COMPENSATING WIRES, THERMOCOUPLE WIRES, TEFLON CABLES AND POWER CABLE WITH EXTRUDED INSULATION FOR RATED VOLTAGES FROM 1KV TO 30KV

VALID FROM 29 November, 2024

VALID TO 28 November, 2027

Original Certification Date : 19 June, 2008

Date of Issue : 01 October, 2024

PRESIDENT OF KSA

KOREAN STANDARDS ASSOCIATION

5, Teheran-ro 69-gil, Gangnam-Gu, Seoul, Korea

KSA has been accredited by Korea Accreditation Board(KAB) as an ISO 9001 Certification body (Accreditation Number : KAB-QC-30)

Quality Management System Certificate

CERTIFICATE OF APPROVAL

YUCHANG E&C Co., Ltd.

22 BARANGONGDAM-RO 4-GIL, HYANGNAM-EUP, HWASEONG-SI, GYEONGGI-DO, KOREA

Korean Standards Association hereby certifies that the Environmental Management System of the above organization has been assessed and found to meet the requirements of the standard and scope of certification detailed below:

CERTIFICATION No. EMS-1207

STANDARD KS I ISO 14001:2015/ISO 14001:2015

SCOPE OF CERTIFICATION

DESIGN, DEVELOPMENT, PRODUCTION OF EXTENSION COMPENSATING WIRES, THERMOCOUPLE WIRES, TEFLON CABLES AND POWER CABLE WITH EXTRUDED INSULATION FOR RATED VOLTAGES FROM 1KV TO 30KV

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PRESIDENT OF KSA

KOREAN STANDARDS ASSOCIATION

5, Teheran-ro 69gil, Gangnam-Gu, Seoul, Korea

KSA has been accredited by Korea Accreditation Board(KAB) as an ISO 14001 Certification body (Accreditation Number : KAB-EC-11)

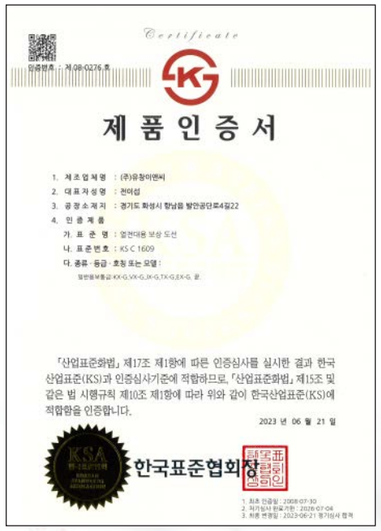
Environmental Management System Certificate

Certificate

ISO 9001 & 14001

Certificate

Product Domestic(KS, KC)



Korean Industrial Standard

Electrical Equipment Safety Certificate(FR)

Electrical Equipment Safety Certificate(TFR)

Certificate

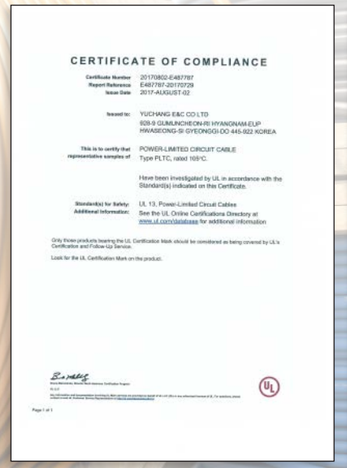
Product International(UL)

UL AWM 2464(2919,21974,20276)

UL 1330, 1331

UL 1726,1727

AWM 4648, 4649



UL PLTC PVC 105°C

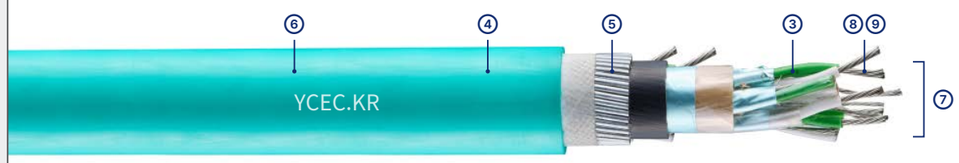
UL PLTC FEP 200°C

What is T/C Extension and Compensating wire?

A thermocouple is a self-powered device that are used to measure wide range of temperature.
It consists of two different conductors that contact each other at one or more spots where temperature difference is experienced. Then, two conductors create voltage that are converted to temperature readings in the control box. Thermocouple utilizes 'extension wires' to measure temperature from its body to the control box, where the measurements are calculated. Since extension cables are made of the same exact material as thermocouples, they yield accurate reading results. However, extension wires are fairly expensive and new cables were invented to 'compensate' the cost; they are called 'compensating wires'. Compensating wires are made of materials that easily and quickly transfer temperatures. Copper, iron and constantan are main materials used to make compensating wire. Though there are some limitations on accuracy, the range of errors is definitely not that significant. Places (such as plants) that require very accurate temperature readings tend to use extension cable; while others look for compensating cables for cost efficiencies.

Symbols for T/C Extension & Compensating Wire

Example: IEC 60584-3 applied



Example) KX(①) - G(②) - VV(③④) SWA(⑤) R(⑥) 16P(⑦) X 1.5SQ(⑧) (7/0.53)(⑨)

① Type of T/C Extension & Compensating cable

Extension : KX, EX, JX, TX, NX
Compensation : BX, RX, SX, WX, VX

② Classification

G : General Standard
GS : General High accuracy
H : Heat resistant Standard
HS : Heat resistant High accuracy

③④ The material of Insulation & Jacket

V : PVC
HV : Heat-resistant PVC
E(C) : Polyethylene (XLPE)
F : Fluoropolymer (FEP,ETFE,PFA)
K : Silicone Rubber
G : Glass Fiber

⑤ Shield / Armor

N : None
S : Copper Tape
SB : Tinned Copper Braid
AMS : Aluminum Mylar Tape Shield
SWA : Steel Wire Armor

⑥ Shape

F : Flat Type
R : Round Type

⑦ Inner Configuration

P : Pair

⑧ Conductor Size

SQ : mm²

⑨ Conductor Construction

Number of strands / dia.(mm)
(Solid or stranded)

Limits of Error : Conforms to ASTM E230, IEC 60584 and ANSI MC 96.1
Color Code : Conforms to ASTM E230 and ANSI MC96.1 (International Color Codes Available)

Type and Color Code for Extension & Compensating Wire

① Type of Extension & Compensating cable

Type	Symbol	Conductor Composition		KS C 1609	ISA(ANSI)-MC96.1 (ASTM E230)	IEC60584-3
		Positive (+)	Negative (-)			
K	KX	Chromel	Alumel	Red + − White, Blue	Yellow + − Red, Yellow	Green + − White, Green
	WX (KCA)	Iron	Constantan	Red + − White, Blue		Green + − White, Green
	VX (KCB)	Copper	Constantan	Red + − White, Blue		Green + − White, Green
E	EX	Chromel	Constantan	Red + − White, Puple	Puple + − Red, Puple	Puple + − White, Puple
J	JX	Iron	Constantan	Red + − White, Yellow	White + − Red, Black	Black + − White, Black
T	TX	Copper	Constantan	Red + − White, Brown	Blue + − Red, Blue	Brown + − White, Brown
R	RX (RCB)	Copper	Copper Nickel Alloy	Red + − White, Black	Black + − Red, Green	Orange + − White, Orange
S	SX (SCB)	Copper	Copper Nickel Alloy	Red + − White, Black	Black + − Red, Green	Orange + − White, Orange
B	BX (BC)	Copper	Copper	Red + − White, Gray	Gray + − Red, Gray	Gray + − White, Gray
N	NX	Nickel Chromium Silicon (Ni-Cr-Si Alloy)	Nickel Silicon (Ni-Si Alloy)		Orange + − Red, Orange	Pink + − White, Pink
C	CX (CC)	CPC	CNC		Green + − Red, Red	

• JIS C 1610 was replaced by IEC 60584-3 starting from 2014.

Characteristics Table

② Classification

Code and Material of Thermocouple wire	Kinds and classes of thermocouple extension wire		Temperature range of validity					
			KS C 1609		ISA(ANSI)-MC96.1 (ASTM E230)		IEC60584-3	
	Symbols	Classification	Temp. Range(°C)	Limits of error(°C)	Temp. Range(°C)	Limits of error(°C)	Temp. Range(°C)	Limits of error(°C)
K Chromel Alumel	KX-G	General Standard	-20 ~ 150	±2.5	0 ~ 200	±2.2	-25~200	±2.5
	KX-GS	General High accuracy		±1.5		-		±1.5
	KX-H	Heat resistant Standard		±2.5		±2.2		±2.5
	KX-HS	Heat resistant High accuracy		±1.5		-		±1.5
	WX-G	General Standard		±3.0		-	0~150	±2.5
	WX-H	Heat resistant Standard						
	VX-G	General Standard	-20~100	±2.5			0~100	±2.5
E Chromel Constantan	EX-G	General Standard	-20~ 150	±2.5	0 ~ 200	±1.7	-25~200	±2.5
	EX-H	Heat resistant Standard						
J Iron Constantan	JX-G	General Standard		±2.5		±2.2		±2.5
	JX-H	Heat resistant Standard						
T Copper Constantan	TX-G	General Standard		±2.0		±1.0	-25~100	±1.0
	TX-GS	General High accuracy		±1.0		±0.5		±0.5
	TX-H	Heat resistant Standard		±2.0		±1.0		±1.0
	TX-HS	Heat resistant High accuracy		±1.0		±0.5		±0.5
R Platinum-13% Rhodium Platinum	RX-G	General Standard	0~150	+3 -7	0 ~ 200	±0.057mv (±5°C)	0~200	±5.0
	RX-H	Heat resistant Standard						
S Platinum-10% Rhodium Platinum	SX-G	General Standard					0~200	±5.0
	SX-H	Heat resistant Standard						
B Platinum-30% Rhodium Platinum-6% Rhodium	BX-G	General Standard	0~100	-	0~100	±0.000mv (0°C) ±0.033mv (-3.7°C)	0~100	±3.5
N Nickel-14% Chromium-1.5% Silicon Nickel-4.5% Silicon-0.1% Magnesium	NX-G	General Standard	-	-	0~200	±2.2	0~150	±2.5
	NX-H	Heat resistant Standard						
C Tungsten-5% Rhenium Tungsten-26% Rhenium	CX-G	General Standard	-	-	0~200	±4.4	-	-
	CX-H	Heat resistant Standard						

IEC60584-3 : Tolerance Class 1 : ±1.5°C
Class 2 : ±2.5°C

Material of Insulation and Jacket

③④ The material of Insulation & Jacket

Insulation Materials for Various Compensating Wires

PVC	Widely used in general environments due to its cost-effectiveness and ease of installation, making it a suitable alternative to rubber materials.
PE / XLPE	Provides excellent electrical insulation, weather, chemical resistance; XLPE maintains stable performance even at high temperatures up to 90°C through cross-linking.
Glass Fiber	Known for excellent heat and chemical resistance, commonly used in high-temperature heating applications.
Silicone Rubber	Provides excellent flexibility, heat and chemical resistance, making it ideal for environments with temperature fluctuations, oils, or air exposure.
Fluoropolymer	Provides excellent heat, chemical, and electrical insulation performance, ensuring reliable use in high-voltage and high-temperature conditions.
PEEK	Maintains stable properties at temperatures up to around 260°C and offers excellent resistance to abrasion, chemicals, and radiation as a high-performance halogen-free material.
Polyimide (PI)	Withstands extreme temperatures above 300°C while offering excellent electrical insulation and chemical resistance, making it suitable for high-reliability applications.

◎ Excellent ○ Good △ Normal X Weak

Material of Insulation & Sheath	Symbols	Temperature Range(°C)	Insulation resistance (MΩ/Km)	Abrasion resistance	Heat resistance	Water proof	Chemical resistance	Oil proof
PVC	V	-10~70	500	○	X	◎	△	△
HR-PVC	HV	-10~105	500	○	△	◎	△	△
PE	PE	-60~75	1,000	○	△	◎	○	△
XLPE	C	-50~90	1,000	○	○	◎	○	△
Glass Fiber	G	0~200	10	△	◎	X	○	△
Silicone Rubber	K	-55~180	100	○	○	○	○	X
FEP	F	-80~200	1,500	◎	○	◎	◎	◎
ETFE	ETFE	-80~150	1,500	◎	○	◎	◎	◎
PFA	PFA	-80~260	1,500	◎	○	◎	◎	◎
PTFE	PTFE	-80~260	1,600	◎	○	◎	◎	◎
PEEK	PEEK	-60~260	1,600	◎	○	◎	◎	◎
Polyimide	PI	-40~300	1,700	◎	○	◎	◎	◎
HG	HG	-30~400	5	△	◎	X	○	△
SHG	SHG	-30~700	5	△	◎	X	○	△
Silica	S	-30~1000	1,600	△	◎	X	○	△

Material of Insulation & Jacket

③④ The material of Insulation & Jacket

Temperature Range & Characteristic table

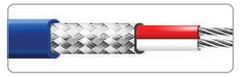
◎ Excellent ○ Good △ Normal X Weak

Material of Insulation	Water proof	Oil proof	Chemical resistance	Insulation resistance	Cold resistance	Heat resistance
Cold Resistant PVC	○	△	△	○	-20	50
Polyethylene	○	△	○	◎	-60	75
General PVC	○	△	△	○	-10	70
Heat resistant PVC	○	△	△	○	-10	105
Natural Rubber	○	○	○	○	-40	60
Urethane Rubber	○	○	○	○	-20	70
Cross-linked Polyethylene	○	△	○	◎	-50	90
Silicone	○	△	○	○	-55	180
Nylon	◎	◎	◎	○	-40	120
FEP	◎	◎	◎	◎	-80	200
ETFE	◎	◎	◎	◎	-80	150
PFA	◎	◎	◎	◎	-80	260
PEEK	◎	◎	◎	◎	-60	260
Polyimide	◎	◎	◎	◎	-40	300
Glass Fiber	X	△	○	-		200
Silica	X	△	○	-	-30	1000

Other Options

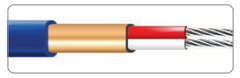
⑤ Shield / Armor

SB: Tinned Copper Braid



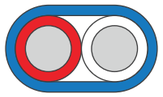
AMS: Aluminum Mylar Tape Shield

S: Copper Tape

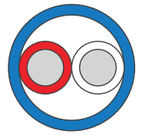


SWA: Steel Wire Armor

⑥ Shape



Flat(F)

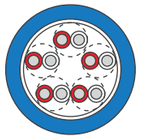


Round(R)

⑦ Inner Configuration

Thermocouple Extension & Compensating wire consists of a pair(s) which is composed of a Positive and a Negative.

Pair	1Pair	2Pair	8Pair	10Pair	30Pair
Symbol	1P	2P	8P	10P	30P



Multi - Pair

⑧⑨ Conductor Size & Construction

Compensating wires send tiny mV-level currents to measuring devices, so conductor size has little effect on the measurement. The below tables show typical conductor sizes for thermocouple Extension & Compensating wire.

Sectional Area (mm^2)	Conductor Construction (No./mm)
0.5	7/0.30
0.75	7/0.37
1.0	7/0.43
	1/1.13
1.25	7/0.45
1.5	7/0.53
	1/1.38
2.0	7/0.60
2.5	7/0.67

AWG	Conductor Construction (No./mm)
#24	7/0.203
#22	7/0.254
	1/0.65
#20	7/0.32
	1/0.81
#18	7/0.386
	1/1.02
#16	7/0.488
	1/1.29

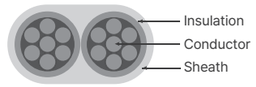
INTRODUCTION-THERMOCOUPLE WIRE

PVC, Flat Type | -VVF

Materials & Construction

Conductor	: Depends on Thermocouple Types
Insulation	: PVC
Sheath	: PVC
Applicable Standard	KS C 1609/ ASTM E230/ IEC 60584-3
Operating Temperature	-10~70°C

Cross-sectional View



Features

- PVC insulation and sheath for general-purpose applications
- Excellent resistance to water, abrasion, chemicals, and oils
- High durability and flexibility for easy installation and wiring
- Cost-effective and widely trusted for its reliability
- Suitable for use at temperatures up to 90°C with HR-PVC

Applications

- Automation, control, and heat management in industrial equipment (plants, power stations, steelworks, petrochemical facilities)
- HVAC systems, temperature controllers, and internal sensors in home appliances
- Temperature measurement and monitoring in environments below 70°C

Specification Table

※ UL-certified cable : contact us

Product	Conductor			Thickness of Insulation (mm)	Thickness of Sheath (mm)	Overall Diameter (mm)	Withstand Voltage (V/min)	Insulation resistance (MΩ/km)	Weight (kg/300M)
	Sectional Area (mm^2)	Construction (No./mm)	Diameter (mm)						
(Type)X1-G	2.0	7/0.6	1.8	0.6	0.9	4.8 X 7.8	AC 500	Min. 50	21.5
(Type)X2-G	1.25	7/0.45	1.35	0.6	0.9	4.35 X 6.9	AC 500	Min. 50	16
(Type)X3-G	0.5	7/0.3	0.9	0.35	0.7	3.0 X 4.6	AC 500	Min. 50	7

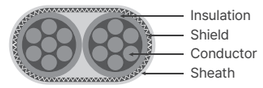
INTRODUCTION-THERMOCOUPLE WIRE

PVC, Flat Type | -VVSBF

Materials & Construction

Conductor	: Depends on Thermocouple Types
Insulation	: PVC
Shield	: Tinned Copper Braid
Sheath	: PVC
Applicable Standard	KS C 1609/ ASTM E230/ IEC 60584-3
Operating Temperature	-10~70°C

Cross-sectional View



Features

- PVC insulation and sheath with an internal metallic shielding layer
- Shielding reduces EMI, RFI, and electrostatic interference, ensuring stable temperature signals
- Excellent resistance to water, abrasion, chemicals, and oils
- High mechanical strength and durability for reliable signal transmission, even in outdoor environments
- Cost-effective and highly reliable
- Suitable for use at temperatures up to 90°C when HR-PVC is applied

Applications

- Automation, control, and heat management in industrial equipment (plants, power stations, steelworks, petrochemical facilities)
- Signal transmission in environments with strong electromagnetic interference (large motors, electric furnaces, generators, high-power equipment)
- HVAC systems, temperature controllers, and internal sensors in home appliances
- Temperature measurement and monitoring in environments below 70°C

Specification Table

※ UL-certified cable : contact us

Product	Conductor			Thickness of Insulation (mm)	Thickness of Shield (mm)	Thickness of Sheath (mm)	Overall Diameter (mm)	Withstand Voltage (V/min)	Insulation resistance (MΩ/km)	Weight (kg/300M)
	Sectional Area (mm^2)	Construction (No./mm)	Diameter (mm)							
(Type)X1-SG	2.0	7/0.6	1.8	0.6	0.3	0.9	5.4 X 8.4	AC 500	Min. 50	28
(Type)X2-SG	1.25	7/0.45	1.35	0.6	0.3	0.9	4.95 X 7.5	AC 500	Min. 50	20
(Type)X3-SG	0.5	7/0.3	0.9	0.35	0.3	0.7	3.6 X 5.2	AC 500	Min. 50	10

INTRODUCTION-THERMOCOUPLE WIRE

Glass Fiber Braid Type | -GGF

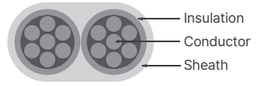
Materials & Construction

Conductor	: Depends on Thermocouple Types
Insulation	: Glass Fiber Braid
Sheath	: Glass Fiber Braid

Applicable Standard KS C 1609/ ASTM E230/ IEC 60584-3

Operating Temperature 0~200°C

Cross-sectional View



Features

- Glass fiber braided insulation and sheath
- Excellent heat resistance maintains insulation performance in high-temperature environments
- Superior chemical resistance protects against common chemicals and contaminants
- Not waterproof — prolonged exposure to humidity may reduce insulation effectiveness

Applications

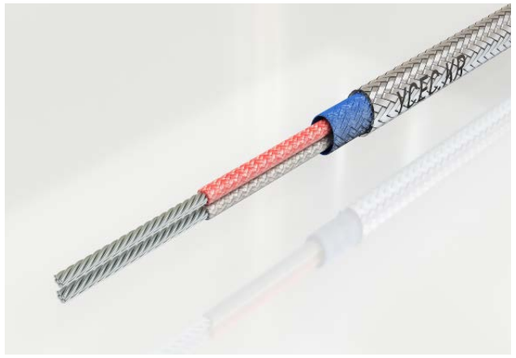
- Automation, control, and heat management in industrial equipment (plants, power stations, steelworks, petrochemical facilities)
- High-temperature applications such as blast furnaces, heating furnaces, and heat treatment processes
- Temperature monitoring of high-temperature components like boilers and turbines

Specification Table

Product	Conductor			Thickness of Insulation (mm)	Thickness of Sheath (mm)	Overall Diameter (mm)	Insulation resistance (MΩ/km)	Weight (kg/300M)
	Sectional Area (mm^2)	Construction (No./mm)	Diameter (mm)					
(Type)X1-H	2.0	7/0.6	1.8	0.32	0.35	3.14 X 5.58	Min. 5	15
(Type)X2-H	1.25	7/0.45	1.35	0.32	0.35	2.69 X 4.68	Min. 5	9
(Type)X3-H	0.5	7/0.3	0.9	0.32	0.35	2.24 X 3.78	Min. 5	5.5

INTRODUCTION-THERMOCOUPLE WIRE

Glass Fiber Braid Type | -GGSBF



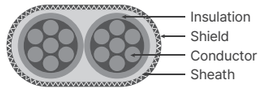
Materials & Construction

Conductor	: Depends on Thermocouple Types
Insulation	: Glass Fiber Braid
Sheath	: Glass Fiber Braid
Shield	: Tinned Copper Braid

Applicable Standard KS C 1609/ ASTM E230/ IEC 60584-3

Operating Temperature 0~200°C

Cross-sectional View



Features

- Glass fiber braided insulation and sheath with a metallic shielding layer applied inside or outside
- Shielding reduces EMI, RFI, and electrostatic interference for stable temperature measurement
- Excellent heat resistance ensures insulation stability in high-temperature environments
- Superior chemical resistance protects against common chemicals and contaminants
- Not waterproof — prolonged humidity exposure may degrade insulation performance

Applications

- Automation, control, and heat management in industrial equipment (plants, power stations, steelworks, petrochemical facilities)
- Signal transmission in environments with strong electromagnetic interference (large motors, electric furnaces, generators, high-power equipment)
- High-temperature areas such as blast furnaces, heating furnaces, and heat treatment line
- Temperature monitoring of boilers, turbines, and other high-heat components

Specification Table

Product	Conductor			Thickness of Insulation (mm)	Thickness of Sheath (mm)	Thickness of Shield (mm)	Overall Diameter (mm)	Insulation resistance (MΩ/km)	Weight (kg/300M)
	Sectional Area (mm^2)	Construction (No./mm)	Diameter (mm)						
(Type)X1-HS	2.0	7/0.6	1.8	0.32	0.35	0.3	3.74 X 6.18	Min. 5	20
(Type)X2-HS	1.25	7/0.45	1.35	0.32	0.35	0.3	3.29 X 5.28	Min. 5	13.7
(Type)X3-HS	0.5	7/0.3	0.9	0.32	0.35	0.3	2.84 X 4.38	Min. 5	9.3

INTRODUCTION-THERMOCOUPLE WIRE

Fluoropolymer Type | -FFF

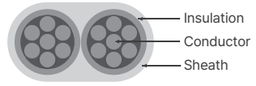
Materials & Construction

Conductor : Depends on Thermocouple Types
Insulation : Fluoropolymer(FEP)
Sheath : Fluoropolymer(FEP)

Applicable Standard KS C 1609 /ASTM E230/ IEC 60584-3

Operating Temperature -80~200°C, ~150°C(ETFE)

Cross-sectional View



Features

- Fluoropolymer (FEP) insulation and sheath
- Excellent heat resistance maintains insulation integrity in high-temperature environments
- Effectively resists common chemicals and environmental contaminants
- Outstanding waterproof performance in humid conditions
- High abrasion resistance protects against physical damage

Applications

- Automation, control, and heat management in industrial equipment (plants, power stations, steelworks, petrochemical facilities)
- High-temperature and corrosive environments such as heating furnaces, reactors, and refining processes
- High-temperature measurement in test equipment and chemical laboratory devices
- Temperature monitoring of high-temperature components like boilers and turbines
- Automotive applications including exhaust temperature monitoring and engine testing
- Thermal performance testing of aerospace components (aircraft engines, spacecraft)

Specification Table

※ UL-certified cable : contact us

Product	Conductor			Thickness of Insulation (mm)	Thickness of Sheath (mm)	Overall Diameter (mm)	Withstand Voltage (V/min)	Insulation resistance (MΩ/km)	Weight (kg/300M)
	Sectional Area (mm^2)	Construction (No./mm)	Diameter (mm)						
(Type)X-H-FFF	1.25	7/0.45	1.35	0.3	0.4	2.8 X 5.0	AC 500	Min. 1500	14
(Type)X-H-FFF	0.75	7/0.37	1.11	0.3	0.4	2.6 X 4.3	AC 500	Min. 1500	10
(Type)X-H-FFF	0.5	7/0.3	0.9	0.3	0.4	2.4 X 4.0	AC 500	Min. 1500	7

INTRODUCTION-THERMOCOUPLE WIRE

Fluoropolymer Type | -FFSBF

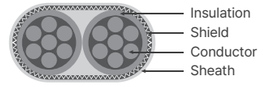
Materials & Construction

Conductor : Depends on Thermocouple Types
Insulation : Fluoropolymer(FEP)
Shield : Tinned Copper Braid
Sheath : Fluoropolymer(FEP)

Applicable Standard KS C 1609 /ASTM E230/ IEC 60584-3

Operating Temperature -80~200°C, ~150°C(ETFE)

Cross-sectional View



Features

- Fluoropolymer (FEP) insulation and sheath with an internal metallic shielding layer
- Shielding reduces EMI, RFI, and electrostatic interference for stable temperature signals
- Excellent heat resistance maintains insulation stability in high-temperature environments
- Effectively resists common chemicals and environmental contaminants
- Outstanding waterproof performance in humid conditions
- High abrasion resistance protects against physical damage

Applications

- Automation, control, and heat management in industrial equipment (plants, power stations, steelworks, petrochemical facilities)
- Signal transmission in environments with strong electromagnetic interference (large motors, electric furnaces, generators, high-power equipment)
- High-temperature and corrosive environments such as heating furnaces, reactors, and refining processes
- High-temperature measurement in test equipment and chemical laboratory devices
- Temperature monitoring of high-heat components like boilers and turbines
- Automotive applications including exhaust temperature monitoring and engine testing
- Thermal performance testing of aerospace components (aircraft engines, spacecraft)

Specification Table

※ UL-certified cable : contact us

Product	Conductor			Thickness of Insulation (mm)	Thickness of Shield (mm)	Thickness of Sheath (mm)	Overall Diameter (mm)	Withstand Voltage (V/min)	Insulation resistance (MΩ/km)	Weight (kg/300M)
	Sectional Area (mm^2)	Construction (No./mm)	Diameter (mm)							
(Type)X-H-FFSBF	1.25	7/0.45	1.35	0.3	0.3	0.4	3.4 X 5.6	AC 500	Min. 1500	17
(Type)X-H-FFSBF	0.75	7/0.37	1.11	0.3	0.3	0.4	3.3 X 5.0	AC 500	Min. 1500	13.5
(Type)X-H-FFSBF	0.5	7/0.3	0.9	0.3	0.3	0.4	3.0 X 4.5	AC 500	Min. 1500	10.5

INTRODUCTION-THERMOCOUPLE WIRE

Silicone Type | -FKR / -KKR

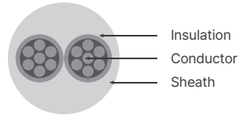
Materials & Construction

Conductor : Depends on Thermocouple Types
Insulation : Silicone Rubber or Fluoropolymer(FEP)
Sheath : Silicone Rubber

Applicable Standard KS C 1609 /ASTM E230/ IEC 60584-3

Operating Temperature -55~180°C

Cross-sectional View



Features

- Insulated with silicone rubber or fluoropolymer, with a silicone rubber sheath
- Excellent heat resistance maintains insulation integrity in high-temperature environments
- Effectively resists common chemicals and environmental contaminants
- Waterproof and cold-resistant for stable performance in harsh conditions
- Retains silicone rubber flexibility across a wide temperature range

Applications

- Automation, control, and thermal management in industrial equipment (plants, power stations, steelworks, petrochemical facilities)
- High-temperature and corrosive environments like heating furnaces, reactors, and refining processes
- Temperature monitoring of boilers, turbines, and other high-heat components
- Thermal performance testing of aerospace components (aircraft engines, spacecraft)
- Complex wiring applications that require a high degree of flexibility

Specification Table

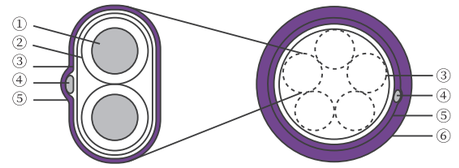
※ UL-certified cable : contact us

Product	Conductor			Thickness of Insulation (mm)	Thickness of Sheath (mm)	Overall Diameter (mm)	Withstand Voltage (V/min)	Insulation resistance (MΩ/km)	Weight (kg/300M)
	Sectional Area (mm^2)	Construction (No./mm)	Diameter (mm)						
(Type)X-H-KKR	0.5	20/0.18	0.9	0.6	1	6.3	AC 500	Min. 500	11
(Type)X-H-FKR	0.5	45/0.12	0.9	0.33	0.8	4.7	AC 500	Min. 500	8.2
(Type)X-H-FKR	0.22	20/0.12	0.62	0.25	0.7	3.7	AC 500	Min. 500	4.5

INTRODUCTION-THERMOCOUPLE WIRE

Single & Multi Pair Type

Type	Classification	Insulation & Sheath	Shield & Shape	Conductor Construction& Size
KX, VX, EX, JX, TX, RX	G/GS			



Product type Multi-pair Compensating Wire

Applicable Standard KS C 1609 /ASTM E230/ IEC 60584-3
Manufacturer's standard specification

Features

- Custom production is available based on customer requirements.
- Noise prevention between pairs and various shielding options can be selected.
- Products can be customized for different operating conditions.
- Flexible pricing is offered depending on product structure and materials.

Materials & Construction

① Conductor : Depends on Thermocouple Types
② Insulation : PVC, PE/XLPE, etc.
③ Binder : Polyester Tape
④ Drain wire : Tinned Copper Wire
⑤ Shield : Without shield / Copper Tape wrapped / Tinned-Copper Braid / Aluminum Mylar Tape
⑥ Sheath : PVC, Low Smoke Halogen Free, etc.

INTRODUCTION-THERMOCOUPLE WIRE

Single & Multi Pair Type | OS (Overall Shield)

PVC/OS/PVC, XLPE/OS/PVC etc.

Materials & Construction

Conductor	: Depends on Thermocouple Types
Insulation	: PVC, PE/XLPE, etc.
Drain wire	: Tinned Copper Wire
Shield	: Tinned-Copper Braid / Aluminum Mylar Tape
Sheath	: PVC, etc.
Applicable Standard	KS C 1609 /ASTM E230/ IEC 60584-3
Operating Temperature	-10~90°C

Features

- PVC insulation and sheath with an internal aluminum Mylar tape shielding layer
- Shielding reduces EMI, RFI, and electrostatic interference, ensuring stable temperature signals
- Excellent resistance to water, abrasion, chemicals, and oils
- Compared to metal shields, aluminum Mylar is both lighter and more cost-effective
- Combined with a drain wire to enhance shielding performance

Applications

- Automation, control, and heat management in industrial equipment (plants, power stations, steelworks, petrochemical facilities)
- Signal transmission in environments with strong electromagnetic interference, such as substations and factory lines power plants
- Electronic and communication systems requiring stable data flow and shielding performance

Specification Table

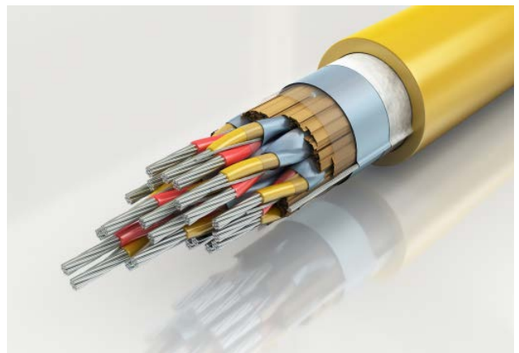
※ UL-certified cable : contact us

Product	Conductor			Thickness of Insulation (mm)	Thickness of Sheath (mm)	Overall Diameter (mm)	Withstand Voltage (V/min)	Insulation resistance (MΩ/km)	Weight (kg/km)
	Sectional Area (mm²)	Construction (No./mm)	Diameter (mm)						
(Type)X-G-V(C)VAMSR	1.5	7/0.53	1.59	0.6	1.5	10.0	AC 500	Min. 500	120
	1.25	7/0.45	1.35	0.6	1.5	9.0			105
	1.0	7/0.43	1.29	0.6	1.5	8.5			100
	0.5	7/0.3	0.9	0.6	1.0	7.0			55

INTRODUCTION-THERMOCOUPLE WIRE

Multi Pair Type | IS/OS (Individual Shield/Overall Shield)

PVC/IS/OS/PVC, XLPE/IS/OS/PVC etc.



Materials & Construction

Conductor	: Depends on Thermocouple Types
Insulation	: PVC, PE/XLPE, etc.
Drain wire	: Tinned Copper Wire
Binder	: Polyester Tape
Individual Shield	: Aluminum Mylar Tape
Overall Shield	: Aluminum Mylar Tape
Sheath	: PVC, etc.
Applicable Standard	KS C 1609 /ASTM E230/ IEC 60584-3
Operating Temperature	-10~90°C

Features

- PVC insulation and sheath with aluminum Mylar tape shielding applied individually to each pair and collectively across all pairs
- Shielding reduces EMI, RFI, and electrostatic interference, ensuring stable temperature signals
- Excellent resistance to water, abrasion, chemicals, and oils
- Combined with a drain wire to enhance shielding performance
- Individual shielding prevents signal interference between pairs

Applications

- Automation, control, and heat management in industrial equipment (plants, power stations, steelworks, petrochemical facilities)
- Signal transmission in environments with strong electromagnetic interference, such as substations and factory lines power plants
- Electronic and communication systems requiring stable data flow and shielding performance
- Multi-sensor signal processing within factory control systems

Specification Table

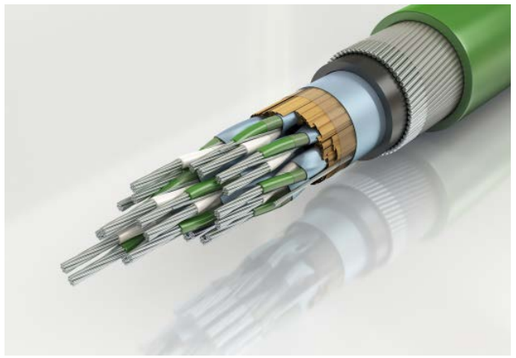
※ UL-certified cable : contact us

Product	Conductor			Thickness of Insulation (mm)	No. of Pairs	IS / OS (Shield)	Thickness of Sheath (mm)	Withstand Voltage (V/min)	Withstand Voltage (V/min)	Insulation resistance (MΩ/km)	Weight (kg/km)
	Sectional Area (mm²)	Construction (No./mm)	Diameter (mm)			Diameter (mm)					
(Type)X-G-V(C)VAMSR	0.5	7/0.3	0.9	0.5	2	8.6	1.2	11.0	AC 500	Min. 500	130
					6	12.4	1.3	15.0			255
					10	16.5	1.5	19.5			395
					20	21.8	1.6	25.0			665
					30	25.9	1.8	29.5			980
	1.0	7/0.43	1.29	0.6	2	10.8	1.5	13.8	AC 500	Min. 500	200
					6	16.0	1.5	19.0			395
					10	20.8	1.5	24.0			595
					20	27.7	1.9	31.5			1050
					30	33.3	2.1	37.5			1540
	1.25	7/0.45	1.35	0.6	2	11.0	1.5	14.0	AC 500	Min. 500	215
					6	16.0	1.5	19.0			420
					10	21.3	1.5	24.5			635
					20	28.2	1.9	32.0			1105
					30	33.8	2.1	38.0			1630
	1.5	7/0.53	1.59	0.6	2	12.0	1.5	15.0	AC 500	Min. 500	240
					6	18.0	1.5	21.0			485
					10	23.1	1.7	26.5			760
					20	30.5	2.0	34.5			1340
					30	36.6	2.2	41.0			1960

INTRODUCTION-THERMOCOUPLE WIRE

Single & Multi Pair, Armored Type | IS/OS/SWA (Individual Shield/Overall Shield/Steel Wire Armor)

PVC/IS/OS/PVC/SWA/PVC, XLPE/IS/OS/PVC/SWA/PVC etc.



Materials & Construction

Conductor	: Depends on Thermocouple Types
Insulation	: PVC, PE/XLPE, etc.
Drain wire	: Tinned Copper Wire
Binder	: Polyester Tape
Individual Shield	: Aluminum Mylar Tape
Overall Shield	: Aluminum Mylar Tape
Bedding	: PVC, etc.
Armor	: Galvanized Steel Wire
Sheath	: PVC, etc.

Applicable Standard KS C 1609 /ASTM E230/ IEC 60584-3

Operating Temperature -10~90°C

Features

- PVC insulation and sheath with aluminum Mylar tape shielding (both individual and overall), bedding, and steel wire armor for enhanced protection
- Shielding reduces EMI, RFI, and electrostatic interference, ensuring stable temperature signals
- Excellent resistance to water, abrasion, chemicals, and oils
- Combined with a drain wire to enhance shielding performance
- Steel wire armor adds durability and protection against physical impacts
- Individual shielding prevents signal interference between pairs

Applications

- Automation, control, and heat management in industrial equipment (plants, power stations, steelworks, petrochemical facilities)
- Signal transmission in environments with strong electromagnetic interference, such as substations, factory lines, and power plants
- Electronic and communication systems requiring stable data flow and shielding performance
- Manufacturing, mining, and construction environments exposed to physical impact and vibration
- Marine and shipbuilding industries where robust cable protection is critical

Specification Table

※ UL-certified cable : contact us

Product	Conductor			Thickness of Insulation (mm)	No. of Pairs	IS / OS (Shield)	Thickness of Bedding (mm)	Thickness of Armor (mm)	Thickness of Sheath (mm)	Overall Diameter (mm)	Withstand Voltage (V/min)	Insulation resistance (MΩ/km)	Weight (kg/km)
	Sectional Area (mm²)	Construction (No./mm)	Diameter (mm)			Diameter (mm)							
(Type)X-G-V(C)VWAV-AMSR	0.75	7/0.37	1.11	0.6	1	5.7	0.9	0.9	1.3	12.5	AC 500	Min. 500	285
					2	10.3	1.0	0.9	1.4	17.5			500
					10	19.4	1.3	1.6	1.7	29.0			1460
					20	25.0	1.5	1.6	1.8	35.5			2085
	1.0	7/0.43	1.29	0.6	1	6.2	0.9	0.9	1.3	13.0	AC 500	Min. 500	310
					2	10.5	1.0	0.9	1.4	18.0			515
					10	19.4	1.3	1.6	1.7	29.5			1500
					20	25.0	1.5	1.6	1.9	35.5			2175
	1.5	7/0.53	1.59	0.6	1	6.7	0.9	0.9	1.3	14.0	AC 500	Min. 500	345
					2	11.5	1.0	0.9	1.4	18.5			570
					10	21.7	1.4	1.6	1.8	31.5			1750
					20	28.1	1.7	2.0	2.0	40.5			2890

INTRODUCTION-THERMOCOUPLE WIRE

Single & Multi- Pair, Round Type Specification Table

No.of Pairs	Conductor			Insulation		Individual Shield				Overall Shield				Sheath		Weight (kg/km)
	Sectional Area (mm²)	Construction (No./mm)	Diameter (mm)	Thickness (mm)	Diameter (mm)	PS TAPE (mm)	Drain wire (mm)	Al-Mylar Tape (mm)	PS TAPE (mm)	PS TAPE (mm)	Drain wire (mm)	Al-Mylar Tape (mm)	Diameter (mm)	Thickness (mm)	Diameter (mm)	
1	1.0	7/0.43	1.29	0.6	2.5					0.038	7/0.30	0.038	5.5	1.5	8.5	100
2	1.0	7/0.43	1.29	0.6	2.5	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	10.8	1.5	13.8	200
3	1.0	7/0.43	1.29	0.6	2.5	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	11.5	1.5	14.5	235
4	1.0	7/0.43	1.29	0.6	2.5	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	13.0	1.5	16.0	285
5	1.0	7/0.43	1.29	0.6	2.5	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	14.5	1.5	17.5	345
6	1.0	7/0.43	1.29	0.6	2.5	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	16.0	1.5	19.0	395
8	1.0	7/0.43	1.29	0.6	2.5	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	17.5	1.5	20.5	470
10	1.0	7/0.43	1.29	0.6	2.5	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	20.8	1.6	24.0	595
12	1.0	7/0.43	1.29	0.6	2.5	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	21.8	1.6	25.0	675
15	1.0	7/0.43	1.29	0.6	2.5	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	24.6	1.7	28.0	815
20	1.0	7/0.43	1.29	0.6	2.5	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	27.7	1.9	31.5	1050
30	1.0	7/0.43	1.29	0.6	2.5	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	33.3	2.1	37.5	1540
1	1.25	7/0.45	1.35	0.6	2.6					0.038	7/0.30	0.038	6.5	1.5	10.0	105
2	1.25	7/0.45	1.35	0.6	2.6	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	11.0	1.5	14.0	215
3	1.25	7/0.45	1.35	0.6	2.6	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	12.0	1.5	15.0	255
4	1.25	7/0.45	1.35	0.6	2.6	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	13.5	1.5	16.5	305
5	1.25	7/0.45	1.35	0.6	2.6	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	15.0	1.5	18.0	370
6	1.25	7/0.45	1.35	0.6	2.6	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	16.0	1.5	19.0	420
8	1.25	7/0.45	1.35	0.6	2.6	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	18.0	1.5	21.0	500
10	1.25	7/0.45	1.35	0.6	2.6	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	21.3	1.6	24.5	635
12	1.25	7/0.45	1.35	0.6	2.6	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	22.1	1.7	25.5	735
15	1.25	7/0.45	1.35	0.6	2.6	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	25.4	1.8	29.0	875
20	1.25	7/0.45	1.35	0.6	2.6	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	28.2	1.9	32.0	1105
30	1.25	7/0.45	1.35	0.6	2.6	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	33.8	2.1	38.0	1630
1	1.5	7/0.53	1.59	0.6	2.8					0.038	7/0.30	0.038	7.0	1.5	10.5	120
2	1.5	7/0.53	1.59	0.6	2.8	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	12.0	1.5	15.0	240
3	1.5	7/0.53	1.59	0.6	2.8	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	13.0	1.5	16.0	290
4	1.5	7/0.53	1.59	0.6	2.8	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	14.5	1.5	17.5	355
5	1.5	7/0.53	1.59	0.6	2.8	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	16.0	1.5	19.0	430
6	1.5	7/0.53	1.59	0.6	2.8	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	18.0	1.5	21.0	485
8	1.5	7/0.53	1.59	0.6	2.8	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	19.5	1.5	22.5	590
10	1.5	7/0.53	1.59	0.6	2.8	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	23.1	1.7	26.5	760
12	1.5	7/0.53	1.59	0.6	2.8	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	24.1	1.7	27.5	870
15	1.5	7/0.53	1.59	0.6	2.8	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	27.2	1.9	31.0	1050
20	1.5	7/0.53	1.59	0.6	2.8	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	30.5	2.0	34.5	1340
30	1.5	7/0.53	1.59	0.6	2.8	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	36.6	2.2	41.0	1960
1	2.0	7/0.60	1.8	0.6	3.0					0.038	7/0.30	0.038	8.0	1.5	11.0	135
2	2.0	7/0.60	1.8	0.6	3.0	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	12.5	1.5	15.5	260
3	2.0	7/0.60	1.8	0.6	3.0	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	13.4	1.5	16.4	330
4	2.0	7/0.60	1.8	0.6	3.0	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	15.0	1.5	18.0	400
5	2.0	7/0.60	1.8	0.6	3.0	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	16.8	1.5	19.8	480
6	2.0	7/0.60	1.8	0.6	3.0	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	18.6	1.5	21.6	570
8	2.0	7/0.60	1.8	0.6	3.0	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	20.5	1.5	23.5	690
10	2.0	7/0.60	1.8	0.6	3.0	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	24.3	1.7	27.7	850
12	2.0	7/0.60	1.8	0.6	3.0	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	25.7	1.7	29.1	980
15	2.0	7/0.60	1.8	0.6	3.0	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	28.1	1.9	31.9	1200
20	2.0	7/0.60	1.8	0.6	3.0	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	32.0	2.0	36.0	1550
30	2.0	7/0.60	1.8	0.6	3.0	0.025	7/0.30	0.025	0.025	0.038	7/0.30	0.038	39.6	2.2	44.0	2250

INTRODUCTION-THERMOCOUPLE WIRE

Thermocouple Duplex Wire

Materials & Construction

Conductor : Depends on Thermocouple Types
Insulation : Fluoropolymer(FEP) or Glass Fiber Braid
Sheath : Tinned Copper Braid (-S)
Glass Fiber Braid (-H)
Fluoropolymer(FEP) (-T)

Applicable Standard : KS C 1609/ ASTM E230/ IEC 60584-3

Features & Applications

- Constructed with thermocouple conductors to generate identical electromotive force
- Optimized for short-distance extension and precision temperature measurement
- Capable of directly functioning as a sensor, unlike compensating cables
- Commonly used in manufacturing, heating equipment, and laboratory devices

Glass Fiber braid with outer Tinned Copper Braid | PSC-S

Product Image	Product Name	Conductor construction (No./mm)	Thickness of Insulation (mm)	Thickness of Sheath (mm)	Overall Diameter (mm)	Weight (kg/200m)
	PSC-(Type)1-S	1/0.6	0.3	0.3	1.8 X 3.0	3.6
	PSC-(Type)2-S	1/0.32	0.3	0.3	1.52 X 2.44	2.6

Glass Fiber braid with outer Glass Fiber braid | PSC-H

Product Image	Product Name	Conductor construction (No./mm)	Thickness of Insulation (mm)	Thickness of Sheath (mm)	Overall Diameter (mm)	Weight (kg/200m)
	PSC-(Type)1-H	1/0.6	0.3	0.3	1.8 X 3.0	2.2
	PSC-(Type)2-H	1/0.32	0.3	0.3	1.52 X 2.44	0.9

Fluoropolymer(FEP) insulated and jacketed | PSC-T

Product Image	Product Name	Conductor construction (No./mm)	Thickness of Insulation (mm)	Thickness of Sheath (mm)	Overall Diameter (mm)	Weight (kg/200m)
	PSC-(Type)1-T	1/0.6	0.2	0.3	1.6 X 2.6	2.3
	PSC-(Type)2-T	1/0.32	0.15	0.2	1.0X 1.6	0.8

INTRODUCTION-THERMOCOUPLE WIRE

HG

Materials & Construction

Conductor : Depends on Thermocouple Types
Insulation : Glass Fiber Braid
Sheath : Glass Fiber Braid

Applications

- Sensor wiring in high-temperature heat treatment equipment
- Fire detection and alarm systems
- High-temperature environments exceeding 400°C
- Laboratory applications requiring fast and accurate high-temperature measurements

Applicable Standard

Manufacturer's standard

Operating Temperature

-30 ~400°C

Product Image	Type	Size (AWG)	Conductor construction (No./mm)	Overall Diameter (mm)	Recommended Upper Temperature Limits (°C)
	K-Type	36	1/0.127	0.95 X 1.3	400
		30	1/0.255	1.00 X 1.5	760
		28	1/0.321	1.42 X 2.4	870
		24	1/0.511	1.35 X 2.2	870
		20	1/0.812	1.60 X 2.6	980
	J-Type	24	1/0.511	1.35 X 2.2	370
		20	1/0.812	1.60 X 2.6	480

SS

Materials & Construction

Conductor : Depends on Thermocouple Types
Insulation : Silica yarn Braid
Sheath : Silica yarn Braid

Applications

- Sensor wiring in high-temperature heat treatment equipment.
- Fire detection and alarm systems
- Extreme high-temperature environments exceeding 1000°C
- Laboratory applications requiring fast and accurate high-temperature measurements

Applicable Standard

Manufacturer's standard

Operating Temperature

-30~1000°C

Product Image	Type	Size (AWG)	Conductor construction (No./mm)	Overall Diameter (mm)	Recommended Upper Temperature Limits (°C)
	K-Type	24	1/0.511	1.7 X 2.3	870
		20	1/0.812	2.0 X 3.2	980
	J-Type	24	1/0.511	1.7 X 2.3	370
		20	1/0.812	2.0 X 3.2	480

INTRODUCTION-THERMOCOUPLE WIRE

Polyimide Wire

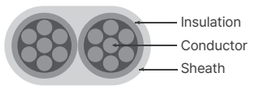
Materials & Construction

Conductor : Depends on Thermocouple Types
Insulation : Polyimide Tape
Sheath : Polyimide Tape
Coating : Polyimide varnish

Applicable Standard Manufacturer's standard

Operating Temperature -40~300°C

Cross-sectional View



Features

- Polyimide tape insulation and sheath
- Excellent resistance to chemicals and contaminants against extreme conditions and contaminants
- Handles extreme high temperatures with stable performance
- Maintains insulation in heat and stays flexible in cryogenic conditions
- Lightweight and suitable for vacuum environments
- Insulation resistance over 10^{16} Ω/mm
- Compliant with RoHS, PBB, PBDE, and free of toluene-free environmental standards

Applications

- Vacuum-rated wiring for compact electronics, medical devices, and semiconductor equipment
- Aerospace and other industries requiring lightweight materials and extreme temperature tolerance
- High-temperature environments exceeding 300°C
- Laboratories requiring fast and precise high-temperature measurements.

Specification Table

Conductor		Tape width (mm)	Thickness of Insulation (mm)	Overall Diameter (mm)
Size (AWG)	Construction (No./mm)			
30	1/0.255	2	0.14	0.68X1.08
28	1/0.321	2	0.12	0.69X1.11
26	1/0.405	3	0.14	0.72X1.24
24	1/0.511	3	0.12	0.75X1.37
22	1/0.644	5	0.15	0.88X1.68
20	1/0.812	5	0.13	1.00X1.93

INTRODUCTION-RESISTANCE TEMPERATURE DETECTOR

RTD Lead Wire

Features & Applications

- RTD sensors (e.g., Pt100Ω) measure temperature by detecting changes in electrical resistance, connecting to measurement devices through RTD lead wires.
- Available in 2-wire, 3-wire, and 4-wire configurations; 3-wire types (two signal lines and one compensation line) are most common in industrial applications.
- Provide more accurate temperature readings than thermocouples, though with a narrower temperature range.
- Widely used in industries requiring precise temperature control, including automation, power generation, electronics, aerospace, military, and research sectors.

Materials & Construction

Conductor : Tinned Copper Wire
Insulation : Fluoropolymer(FEP) or Glass Fiber Braid
Sheath : Tinned Copper Braid (-S)
Silicone Rubber(-SR)
Tinned Copper Braid & Silicone Rubber(-SSR)
Fluoropolymer(-F)
Tinned Copper Braid & Fluoropolymer(-SF)

TW3-S Fluoropolymer(FEP) insulated with outer Tinned Copper Braid

Product Name	Conductor		Insulation material	Sheath material	Sheath material	Overall Diameter (mm)	Weight (kg/km)
	Sectional Area (mm^2)	Construction (No./mm)	Thickness (mm)	Thickness (mm)	Thickness (mm)		
TW3-S	0.3	12/0.18	Fluoropolymer	Tinned Copper Braid	-	3.0	5.0
			0.25	0.3	-		

TW3-SR Fluoropolymer(FEP) insulated Silicone rubber cover

Product Name	Conductor		Insulation material	Sheath material	Sheath material	Overall Diameter (mm)	Weight (kg/km)
	Sectional Area (mm^2)	Construction (No./mm)	Thickness (mm)	Thickness (mm)	Thickness (mm)		
TW3-SR	0.3	12/0.18	Fluoropolymer	Silicone Rubber	-	4.3	5.7
			0.25	0.7	-		
TW3-SR	0.3	12/0.18	Fluoropolymer	Silicone Rubber	-	4.8	6.9
			0.25	0.9	-		

TW3-SSR Fluoropolymer(FEP) insulated with Inner Tinned Copper Braid & Silicone rubber cover

Product Name	Conductor		Insulation material	Sheath material	Sheath material	Overall Diameter (mm)	Weight (kg/km)
	Sectional Area (mm^2)	Construction (No./mm)	Thickness (mm)	Thickness (mm)	Thickness (mm)		
TW3-SSR	0.3	12/0.18	Fluoropolymer	Tinned Copper Braid	Silicone Rubber	4.7	40.5
			0.25	0.3	0.6		

TW3-GGS Glass Fiber braid insulated with outer Tinned Copper Braid

Product Name	Conductor		Insulation material	Sheath material	Sheath material	Overall Diameter (mm)	Weight (kg/km)
	Sectional Area (mm^2)	Construction (No./mm)	Thickness (mm)	Thickness (mm)	Thickness (mm)		
TW3-GGS	0.3	12/0.18	Glass Fiber Braid	Tinned Copper Braid	-	3.2	26
			0.3	0.3	-		

INTRODUCTION-INDUSTRIAL CABLE

0.6/ 1kV Control Cable

Materials & Construction

Conductor	: Tinned Copper Wire (Solid, Stranded conductor)
Insulation	: PVC or FR-PVC
Binder	: Polyester Tape
Drain wire	: Tinned Copper Wire
Shield	: Copper Tape(-S), Tinned Copper Braid(-SB), Aluminum Mylar Tape(-AMS)+ Drain wire
Sheath	: PVC or FR-PVC

Applicable Standard KS C IEC 60502-1
Electrical Equipment Safety Certificate(TFR)

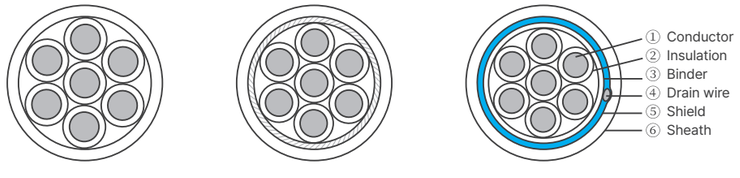
Operating Temperature -10~70°C

Features

- Multi-core cable with PVC insulation and sheath over electrolytic copper conductors
- Excellent resistance to waterproof, abrasion, chemical, and oil
- High durability and flexibility for easy installation and wiring
- Available in shielded and unshielded types
- Suitable for use at temperatures up to 90°C with HR-PVC
- Can be manufactured with enhanced heat and flame-resistant materials

Applications

- Internal wiring in electrical rooms, control panels, and remote control systems in plants, power stations, steel mills, and petrochemical facilities
- Connecting sensors, motors, and PLCs in automation equipment and factory production lines
- Control panels, measuring instruments, and communication systems in the electrical and electronics industries
- Signal control systems in transportation sectors such as railways, airports, and traffic management systems



0.6/1KV CVV　　0.6/1KV CVV-SB　　0.6/1KV CVV-AMS

INTRODUCTION-INDUSTRIAL CABLE

0.6/ 1kV Control Cable Specification Table

No.of Core	Conductor			Insulation		Sheath		Maximum DC Resistance of Conductor (20°C)Ω/km	Test Voltage (kV/5min)	Weight (kg/km)
	Sectional Area (mm^2)	Construction (No./mm)	Diameter (mm)	Thickness (mm)	Diameter (mm)	Thickness (mm)	Diameter (mm)			
2	1.5	7/0.53	1.59	0.8	3.2	1.8	11.0	12.1	3.5	150
3	1.5	7/0.53	1.59	0.8	3.2	1.8	11.5	12.1	3.5	190
4	1.5	7/0.53	1.59	0.8	3.2	1.8	12.5	12.1	3.5	230
5	1.5	7/0.53	1.59	0.8	3.2	1.8	13.5	12.1	3.5	270
6	1.5	7/0.53	1.59	0.8	3.2	1.8	14.5	12.1	3.5	310
7	1.5	7/0.53	1.59	0.8	3.2	1.8	14.5	12.1	3.5	330
8	1.5	7/0.53	1.59	0.8	3.2	1.8	15.5	12.1	3.5	380
10	1.5	7/0.53	1.59	0.8	3.2	1.8	18.0	12.1	3.5	460
12	1.5	7/0.53	1.59	0.8	3.2	1.8	18.5	12.1	3.5	530
15	1.5	7/0.53	1.59	0.8	3.2	1.8	19.5	12.1	3.5	630
20	1.5	7/0.53	1.59	0.8	3.2	1.8	22.0	12.1	3.5	810
30	1.5	7/0.53	1.59	0.8	3.2	1.8	26.0	12.1	3.5	1150
2	2.5	7/0.67	2.01	0.8	3.6	1.8	12.0	7.41	3.5	190
3	2.5	7/0.67	2.01	0.8	3.6	1.8	12.5	7.41	3.5	230
4	2.5	7/0.67	2.01	0.8	3.6	1.8	13.5	7.41	3.5	280
5	2.5	7/0.67	2.01	0.8	3.6	1.8	14.5	7.41	3.5	340
6	2.5	7/0.67	2.01	0.8	3.6	1.8	15.5	7.41	3.5	390
7	2.5	7/0.67	2.01	0.8	3.6	1.8	15.5	7.41	3.5	420
8	2.5	7/0.67	2.01	0.8	3.6	1.8	16.5	7.41	3.5	490
10	2.5	7/0.67	2.01	0.8	3.6	1.8	19.5	7.41	3.5	590
12	2.5	7/0.67	2.01	0.8	3.6	1.8	20.0	7.41	3.5	680
15	2.5	7/0.67	2.01	0.8	3.6	1.8	22.0	7.41	3.5	830
20	2.5	7/0.67	2.01	0.8	3.6	1.8	24.0	7.41	3.5	1060
30	2.5	7/0.67	2.01	0.8	3.6	1.8	26.0	7.41	3.5	1520
2	4.0	7/0.85	2.55	1.0	4.55	1.8	14.0	4.61	3.5	250
3	4.0	7/0.85	2.55	1.0	4.55	1.8	14.5	4.61	3.5	320
4	4.0	7/0.85	2.55	1.0	4.55	1.8	16.0	4.61	3.5	400
5	4.0	7/0.85	2.55	1.0	4.55	1.8	17.0	4.61	3.5	490
6	4.0	7/0.85	2.55	1.0	4.55	1.8	18.5	4.61	3.5	570
7	4.0	7/0.85	2.55	1.0	4.55	1.8	18.5	4.61	3.5	620
8	4.0	7/0.85	2.55	1.0	4.55	1.8	20.0	4.61	3.5	720
10	4.0	7/0.85	2.55	1.0	4.55	1.8	23.0	4.61	3.5	870
12	4.0	7/0.85	2.55	1.0	4.55	1.8	24.0	4.61	3.5	1020
15	4.0	7/0.85	2.55	1.0	4.55	1.8	26.0	4.61	3.5	1240
20	4.0	7/0.85	2.55	1.0	4.55	1.8	29.0	4.61	3.5	1610
30	4.0	7/0.85	2.55	1.0	4.55	1.8	35.0	4.61	3.5	2350
2	6.0	7/1.04	3.12	1.0	5.12	1.8	15.0	3.08	3.5	310
3	6.0	7/1.04	3.12	1.0	5.12	1.8	16.0	3.08	3.5	410
4	6.0	7/1.04	3.12	1.0	5.12	1.8	17.0	3.08	3.5	510
5	6.0	7/1.04	3.12	1.0	5.12	1.8	18.5	3.08	3.5	620
6	6.0	7/1.04	3.12	1.0	5.12	1.8	21.0	3.08	3.5	730
7	6.0	7/1.04	3.12	1.0	5.12	1.8	21.0	3.08	3.5	800
8	6.0	7/1.04	3.12	1.0	5.12	1.8	22.0	3.08	3.5	920
10	6.0	7/1.04	3.12	1.0	5.12	1.8	26.0	3.08	3.5	1130
12	6.0	7/1.04	3.12	1.0	5.12	1.8	27.0	3.08	3.5	1320
15	6.0	7/1.04	3.12	1.0	5.12	1.8	29.0	3.08	3.5	1620
20	6.0	7/1.04	3.12	1.0	5.12	1.8	32.0	3.08	3.5	1610
2	10.0	7/1.35	4.05	1.0	6.05	1.8	17.0	1.83	3.5	420
3	10.0	7/1.35	4.05	1.0	6.05	1.8	18.0	1.83	3.5	560
4	10.0	7/1.35	4.05	1.0	6.05	1.8	19.5	1.83	3.5	710
5	10.0	7/1.35	4.05	1.0	6.05	1.8	21.0	1.83	3.5	870
6	10.0	7/1.35	4.05	1.0	6.05	1.8	23.0	1.83	3.5	1020
7	10.0	7/1.35	4.05	1.0	6.05	1.8	23.0	1.83	3.5	1140
8	10.0	7/1.35	4.05	1.0	6.05	1.8	25.0	1.83	3.5	1310
10	10.0	7/1.35	4.05	1.0	6.05	1.8	29.0	1.83	3.5	1610
12	10.0	7/1.35	4.05	1.0	6.05	1.8	30.0	1.83	3.5	1890

INTRODUCTION-INDUSTRIAL CABLE

Multi-Core Heat Resistant Cable

Materials & Construction

Conductor	: Tinned Copper Wire (Solid, Stranded conductor)
Insulation	: Fluoropolymer(FEP, ETFE, PFA)
Binder	: Polyester Tape
Drain wire	: Tinned Copper Wire
Shield	: Copper Tape(-S), Tinned Copper Braid(-SB), Aluminum Mylar Tape(-AMS)+ Drain wire
Sheath	: Fluoropolymer(FEP, ETFE, PFA)

Applicable Standard UL 758&1581 / Manufacturer's standard

Operating Temperature -80~200°C, ~150°C(ETFE)

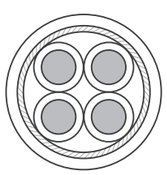
Features

- Multi-core cable with fluoropolymer insulation and sheath over electrolytic copper conductors
- Excellent heat resistance ensures insulation stability under extreme temperatures
- Composite control and signal cable designed for high-temperature environments
- Excellent chemical resistance protects against common chemicals and contaminants

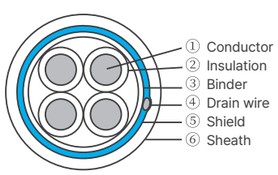
Applications

- Automation, control, and heat management in industrial equipment (plants, power stations, steelworks, petrochemical facilities)
- Reliable signal wiring for high-temperature processes in semiconductor and display industries
- Stable data transmission in high-temperature, high-pressure environments in aerospace applications
- Radar and communication wiring in military and defense industries

※ UL-certified cable : contact us



300V S-FF-SB or S-EE-SB



300V S-FF-AMS or S-EE-AMS

INTRODUCTION-INDUSTRIAL CABLE

Multi-Core Heat Resistant Cable

Specification Table of type for FF-AMS

※Available in finished outer diameters up to 25 mm

No.of Core	Conductor			Insulation		Individual Shield			Sheath		Weight (kg/km)
	Sectional Area (mm²)	Construction (No./mm)	Diameter (mm)	Thickness (mm)	Diameter (mm)	PS TAPE (mm)	Drain wire (mm)	Al-Mylar Tape (mm)	Thickness (mm)	Diameter (mm)	
2	0.50	7/0.3	0.90	0.3	1.50	0.025	0.3	0.038	0.5	5.5	40
3	0.50	7/0.3	0.90	0.3	1.50	0.025	0.3	0.038	0.5	5.7	47
4	0.50	7/0.3	0.90	0.3	1.50	0.025	0.3	0.038	0.5	6.1	56
5	0.50	7/0.3	0.90	0.3	1.50	0.025	0.3	0.038	0.5	6.6	66
2	0.75	7/0.37	1.11	0.3	1.71	0.025	0.3	0.038	0.5	5.9	60
3	0.75	7/0.37	1.11	0.3	1.71	0.025	0.3	0.038	0.5	6.2	62
4	0.75	7/0.37	1.11	0.3	1.71	0.025	0.3	0.038	0.5	6.6	71
5	0.75	7/0.37	1.11	0.3	1.71	0.025	0.3	0.038	0.5	7.1	84
2	1.25	7/0.45	1.35	0.3	1.95	0.025	0.3	0.038	0.5	6.4	60
3	1.25	7/0.45	1.35	0.3	1.95	0.025	0.3	0.038	0.5	6.7	73
4	1.25	7/0.45	1.35	0.3	1.95	0.025	0.3	0.038	0.5	7.2	89
5	1.25	7/0.45	1.35	0.3	1.95	0.025	0.3	0.038	0.5	7.7	107
2	1.50	7/0.53	1.59	0.4	2.19	0.025	0.3	0.038	0.7	6.9	74
3	1.50	7/0.53	1.59	0.4	2.19	0.025	0.3	0.038	0.7	7.2	90
4	1.50	7/0.53	1.59	0.4	2.19	0.025	0.3	0.038	0.7	8.4	125
5	1.50	7/0.53	1.59	0.4	2.19	0.025	0.3	0.038	0.7	9.0	148
2	2.00	7/0.6	1.80	0.4	2.40	0.025	0.3	0.038	0.7	7.3	88
3	2.00	7/0.6	1.80	0.4	2.40	0.025	0.3	0.038	0.7	7.7	109
4	2.00	7/0.6	1.80	0.4	2.40	0.025	0.3	0.038	0.7	8.9	151
5	2.00	7/0.6	1.80	0.4	2.40	0.025	0.3	0.038	0.7	9.6	181

Specification Table of type for FF-SB

※Available in finished outer diameters up to 25 mm

No.of Core	Conductor			Insulation		Individual Shield		Sheath		Weight (kg/km)
	Sectional Area (mm²)	Construction (No./mm)	Diameter (mm)	Thickness (mm)	Diameter (mm)	PS TAPE (mm)	Tinned Copper Braid (mm)	Thickness (mm)	Diameter (mm)	
2	0.50	7/0.3	0.90	0.3	1.5	0.025	0.12	0.5	5.1	49
3	0.50	7/0.3	0.90	0.3	1.5	0.025	0.12	0.5	5.3	57
4	0.50	7/0.3	0.90	0.3	1.5	0.025	0.12	0.5	7.7	68
5	0.50	7/0.3	0.90	0.3	1.5	0.025	0.12	0.5	6.1	79
2	0.75	7/0.37	1.11	0.3	1.7	0.025	0.12	0.5	5.5	60
3	0.75	7/0.37	1.11	0.3	1.7	0.025	0.12	0.5	5.8	72
4	0.75	7/0.37	1.11	0.3	1.7	0.025	0.12	0.5	6.2	84
5	0.75	7/0.37	1.11	0.3	1.7	0.025	0.12	0.5	6.7	98
2	1.25	7/0.45	1.35	0.3	2.0	0.025	0.12	0.5	6.0	73
3	1.25	7/0.45	1.35	0.3	2.0	0.025	0.12	0.5	6.3	86
4	1.25	7/0.45	1.35	0.3	2.0	0.025	0.12	0.5	7.4	116
5	1.25	7/0.45	1.35	0.3	2.0	0.025	0.12	0.5	8.0	136
2	1.50	7/0.53	1.59	0.4	2.2	0.025	0.12	0.7	6.5	91
3	1.50	7/0.53	1.59	0.4	2.2	0.025	0.12	0.7	6.8	107
4	1.50	7/0.53	1.59	0.4	2.2	0.025	0.12	0.7	8.0	144
5	1.50	7/0.53	1.59	0.4	2.2	0.025	0.12	0.7	8.6	169
2	2.00	7/0.6	1.80	0.4	2.4	0.025	0.12	0.7	6.9	101
3	2.00	7/0.6	1.80	0.4	2.4	0.025	0.12	0.7	7.3	128
4	2.00	7/0.6	1.80	0.4	2.4	0.025	0.12	0.7	8.5	168
5	2.00	7/0.6	1.80	0.4	2.4	0.025	0.12	0.7	9.2	200

INTRODUCTION-INDUSTRIAL CABLE

Fluoropolymer Wire

Applications

- Fluoropolymer-insulated wire (150~250°C) for home appliances, OA equipment, and industrial FA devices
- High-performance fluoropolymer wire with excellent heat, abrasion, and chemical resistance, suitable for automotive and heavy-equipment wiring, customizable to specifications
- Custom production available based on customer requirements

Materials & Construction

Conductor : Tinned Copper Wire (Solid, Stranded wires)
Insulation : Fluoropolymer(FEP, ETFE, PFA)

Applicable Standard

UL 758, CSA C 22.2

Product	Conductor			Thickness of Insulation (mm)	Diameter (mm)	Rating
	Size (AWG)	Sectional Area (mm^2)	Diameter (mm)			
TEFLON WIRE(6F)	#26	0.14	0.49	0.25	0.98	300V 200°C
	#24	0.20	0.62	0.25	1.13	
	#22	0.30	0.75	0.26	1.24	
	#20	0.50	0.95	0.26	1.45	
	#18	0.75	1.23	0.28	1.70	
	#16	1.25	1.54	0.28	2.03	
	#14	2.00	1.88	0.30	2.43	
	#12	3.50	2.65	0.30	3.25	
	#10	5.50	3.29	0.40	3.85	
UL1332	#26	0.14	0.49	0.33	1.15	300V 200°C
	#24	0.20	0.62	0.33	1.28	
	#22	0.30	0.75	0.33	1.41	
	#20	0.50	0.95	0.33	1.61	
	#18	0.75	1.23	0.33	1.89	
	#16	1.25	1.54	0.33	2.20	
	#14	2.00	1.88	0.33	2.54	
	#12	3.50	2.65	0.33	3.31	
	#10	5.50	3.29	0.33	3.95	
UL1330	#26	0.14	0.49	0.51	1.51	600V 200°C
	#24	0.20	0.62	0.51	1.64	
	#22	0.30	0.75	0.51	1.77	
	#20	0.50	0.95	0.51	1.97	
	#18	0.75	1.23	0.51	2.25	
	#16	1.25	1.54	0.51	2.56	
	#14	2.00	1.88	0.51	2.90	
	#12	3.50	2.65	0.51	3.67	
	#10	5.50	3.29	0.51	4.31	
UL1726	#26	0.14	0.49	0.33	1.15	300V 250°C
	#24	0.20	0.62	0.33	1.28	
	#22	0.30	0.75	0.33	1.41	
	#20	0.50	0.95	0.33	1.61	
	#18	0.75	1.23	0.33	1.89	
	#16	1.25	1.54	0.33	2.20	
	#14	2.00	1.88	0.33	2.54	
	#12	3.50	2.65	0.33	3.31	
	#10	5.50	3.29	0.33	3.95	
UL1727	#26	0.14	0.49	0.51	1.51	600V 250°C
	#24	0.20	0.62	0.51	1.64	
	#22	0.30	0.75	0.51	1.77	
	#20	0.50	0.95	0.51	1.97	
	#18	0.75	1.23	0.51	2.25	
	#16	1.25	1.54	0.51	2.56	
	#14	2.00	1.88	0.51	2.90	
	#12	3.50	2.65	0.51	3.67	
	#10	5.50	3.29	0.51	4.31	

INTRODUCTION-INDUSTRIAL CABLE

SRGW

※Contact for specification details

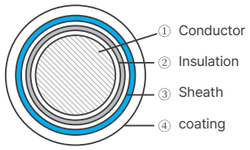
Materials & Construction

Conductor : Tinned Copper Wire
Insulation : Silicone Rubber
Sheath : Glass Fiber Braid
Coating : Silicone varnish

Applicable Standard UL 758/ Manufacturer's standard

Operating Temperature -30~200°C

Cross-sectional View



Features

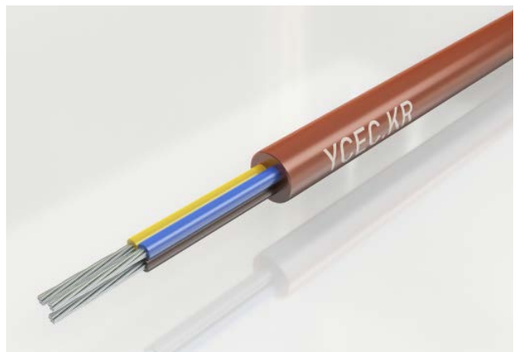
- Silicone rubber insulation with glass fiber braid and silicone varnish coating
- Excellent resistance to corrosion, heat, and chemicals
- Maintains flexibility across a wide temperature range

Applications

- Internal wiring of home appliances, including ovens, toasters, and lighting equipment
- Automotive engine and electrical system wiring
- Residential equipment wiring for heating and cooling systems

SIHF(SB)

※Contact for specification details



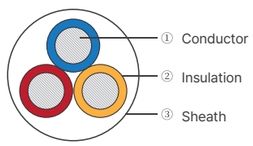
Materials & Construction

Conductor : Tinned Copper Wire
Insulation : Silicone Rubber
Sheath : Silicone Rubber

Applicable Standard UL 758/ Manufacturer's standard

Operating Temperature -55~180°C

Cross-sectional View



Features

- Silicone rubber insulation and sheath
- Excellent resistance to heat and chemicals
- Maintains flexibility across a wide temperature range
- Optional shielding available

Applications

- Automation, control, and heat management in industrial equipment (plants, power stations, steelworks, petrochemical facilities)
- Internal wiring of home appliances, including ovens, toasters, and lighting equipment
- Residential equipment wiring for heating and cooling systems

INTRODUCTION-INDUSTRIAL CABLE

Polyimide Wire

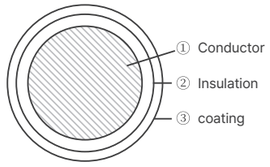
Materials & Construction

Conductor : Tinned Copper, Nickel plated Copper
Insulation : Polyimide Tape
Coating : Polyimide varnish

Applicable Standard Manufacturer's standard

Operating Temperature -40~300°C

Cross-sectional View



Features

- Polyimide tape Insulation
- Excellent resistance to heat and chemical against extreme conditions and contaminants
- Maintains insulation in heat and stays flexible in cryogenic conditions
- Lightweight and suitable for vacuum environments
- Insulation resistance exceeds 10^{16} Ω/mm
- Compliant with PBB, PBDE, RoHS, and toluene-free environmental standards

Applications

- Vacuum-rated wiring for compact electronics, medical devices, and semiconductor equipment
- Aerospace and industries requiring lightweight materials and extreme temperature tolerance
- High-temperature environments exceeding 300°C

Specification Table

Conductor		Tape width (mm)	Thickness of Insulation (mm)	Overall Diameter (mm)
Size (AWG)	Construction (No./mm)			
36	1/0.127	2	0.10	0.32
32	1/0.202	2	0.11	0.42
30	1/0.255	2	0.14	0.53
28	1/0.321	2	0.12	0.56
26	1/0.405	3	0.14	0.68
24	1/0.511	3	0.12	0.75
22	1/0.644	5	0.15	0.94
20	1/0.812	5	0.13	1.07
18	1/1.020	5	0.11	1.24

INTRODUCTION-INDUSTRIAL CABLE

PEEK Wire

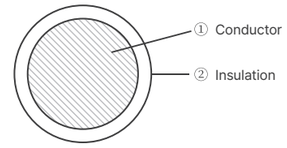
Materials & Construction

Conductor : Tinned Copper Wire (Solid, Stranded Conductor)
Insulation : PEEK (Poly Ether Ether Ketone)

Applicable Standard Manufacturer's standard

Operating Temperature -60~260°C

Cross-sectional View



Features

- PEEK insulation
- Excellent heat and chemical resistance, flame retardancy, electrical performance, lubricity, and radiation resistance
- Supports continuous operation at 250°C and maintains mechanical strength up to 300°C
- Low toxicity with minimal smoke and toxic gas emissions

Applications

- Aerospace, marine, nuclear power, and rail sectors where fire-generated toxic gases pose significant risks
- High-temperature, high-pressure environments in petrochemical and gas industries
- Medical devices and biotechnology applications requiring radiation resistance and biocompatibility
- Semiconductor and electronics industries demanding superior heat, chemical, and electrical performance

Specification Table

Conductor		Thickness of Insulation (mm)	Overall Diameter (mm)
Size (AWG)	Construction (No./mm)		
24	7/0.203	0.15	0.90
22	7/0.254	0.20	1.16
20	7/0.320	0.20	1.07
18	7/0.386	0.22	1.24
16	7/0.488	0.25	1.96

INTRODUCTION-INDUSTRIAL CABLE

Heat Resistance Wire - UL

Materials & Construction

Conductor	: Nickel, Nickel plated Copper
Insulation	: MICA Tape or Fiberglass Braid
Sheath	: Fiberglass Braid (with High temperature Resistant Finish
Shield	: Optional, Stainless Stell(Alloy 304)

Product Specification Contact us for detailed specifications.

Applicable Standard UL758 & 1581

Features

- Insulated with PTFE or MICA tape and protected with a braided glass yarn sheath
- Insulation and sheath materials, along with their thickness, vary by UL Style Number, determining temperature and dielectric strength ratings

Applications

- Internal wiring of equipment operating in high-temperature environments up to 550°C
- Steel mills, steelmaking processes, incinerators, and chemical plants requiring high thermal resistance
- Aerospace applications requiring reliable data transmission under extreme heat conditions

Materials & Construction

Voltage	UL Style No.	Max. Temp.	Conductor	Insulation	Braid	Shield
300V	UL 5360	450°C	Nickel, Nickel plated Copper	MICA Tape	Fiberglass Braid with high temperature resistant finish	-
	UL 5561	550°C	Nickel, Nickel plated Copper	MICA Tape	Fiberglass Braid with high temperature resistant finish	optional
600V	UL 5476	450°C	Nickel, Nickel plated Copper	MICA Tape	Fiberglass Braid with high temperature resistant finish	-
	UL 5562	550°C	Nickel, Nickel plated Copper	MICA Tape	Fiberglass Braid with high temperature resistant finish	optional

Specification Table -UL5562

Conductor		Thickness of Insulation (mm)	Thickness of Braid (mm)	Overall Diameter (mm)
Size (AWG)	Construction (No./mm)			
24	7/0.2	0.61	0.2	2.3±0.2
22	7/0.254			2.5±0.2
20	10/0.254			2.6±0.2
18	16/0.254			2.9±0.2
16	26/0.254			3.2±0.3
14	41/0.254			3.6±0.3
12	65/0.254			4.1±0.3
10	103/0.254	0.89	0.25	5.6±0.5
8	163/0.254			6.5±0.5
6	260/0.254			7.6±0.5
4	413/0.254			8.9±0.5

INTRODUCTION-INDUSTRIAL CABLE

Heating Cable

Applications

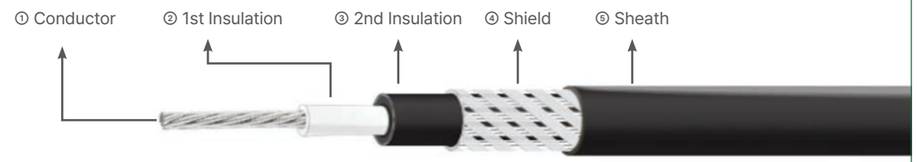
- Used for freeze protection, pipe and equipment thawing, snow melting and deicing of roofs, gutters, and roads, as well as underfloor heating and maintaining temperatures in industrial processes

Materials & Construction

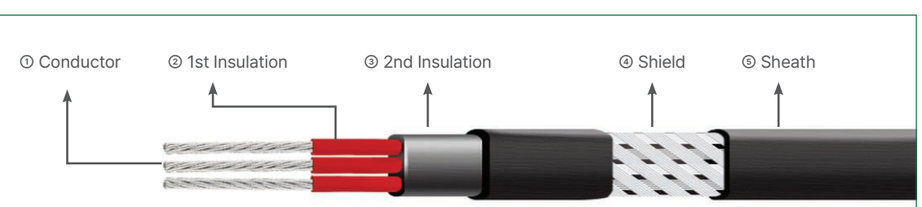
Conductor	: Nickel alloy wire
1st Insulation	: Fluoropolymer
2nd Insulation	: HR-PVC / HR-Rubber
Shield	: Tinned Copper Braid
Sheath	: HR-PVC / HR-Rubber

Applicable Standard

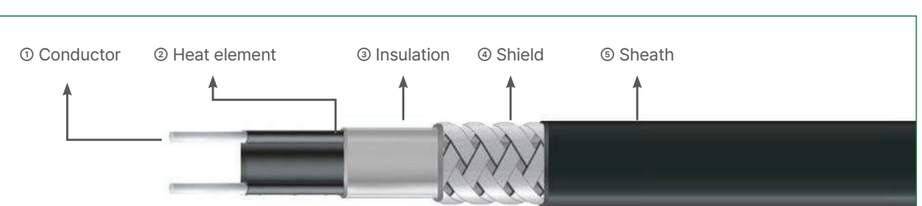
Manufacturer's standard



Series Resistance Heating Cable



Long Line Heating Cable



Self-Control Heating Cable

Temperature-EMF table for thermocouples

Type K Thermocouple

• KSC 1602 2024 • ASTM E230 2023(ANSI MC 96.1) • IEC-60584-1 2013 Unit : μV

°C	-100	0	°C	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	°C
0	-3553	0	0	0	4095	8137	12207	16395	20640	24902	29128	33277	37325	41269	45108	48828	52398	0
-10	-3852	-392	10	397	4508	8537	12623	16818	21066	25327	29547	33686	37724	41657	45486	49192	52747	10
-20	-4138	-777	20	798	4919	8938	13039	17241	21493	25751	29965	34095	38122	42045	45863	49555	53093	20
-30	-4410	-1156	30	1203	5327	9341	13456	17664	21919	26176	30383	34502	38519	42432	46238	49916	53439	30
-40	-4699	-1527	40	1611	5733	9745	13874	18088	22346	26599	30799	34909	38915	42817	46612	50276	53782	40
-50	-4912	-1889	50	2022	6137	10151	14292	18513	22772	27022	31214	35314	39310	43202	46985	50633	54125	50
-60	-5141	-2243	60	2436	6539	10560	14712	18938	23198	27445	31629	35718	39703	43585	47356	50990	54466	60
-70	-5354	-2586	70	2850	6939	10969	15132	19363	23624	27867	32042	36121	40096	43968	47726	51344	54807	70
-80	-5550	-2920	80	3266	7338	11381	15552	19788	24050	28288	32455	36524	40488	44349	48095	51697		80
-90	-5730	-3242	90	3681	7737	11793	15974	20214	24476	28709	32866	36925	40879	44729	48462	52049		90
-100	-5891	-3553	100	4095	8137	12207	16395	20640	24902	29128	33277	37325	41269	45108	48828	52398		100

Type E Thermocouple

• KSC 1602 2024 • ASTM E230 2023(ANSI MC 96.1) • IEC-60584-1 2013 Unit : μV

°C	-100	0	°C	0	100	200	300	400	500	600	700	800	900	°C
0	-5237	0	0	0	6317	13419	21033	28943	36999	45085	53110	61022	68783	0
-10	-5680	-581	10	591	6996	14161	21814	29744	37808	45891	53907	61806	69549	10
-20	-6107	-1151	20	1192	7683	14909	22597	30546	38617	46697	54703	62588	70313	20
-30	-6516	-1709	30	1801	8377	15661	23383	31350	39426	47502	55498	63368	71075	30
-40	-6907	-2254	40	2419	9078	16417	24171	32155	40236	48306	56291	64147	71835	40
-50	-7279	-2787	50	3047	9787	17178	24961	32960	41045	49109	57083	64924	72593	50
-60	-7631	-3306	60	3683	10501	17942	25754	33767	41853	49911	57873	65700	73350	60
-70	-7963	-3811	70	4329	11222	18710	26549	34574	42662	50713	58663	66473	74104	70
-80	-8273	-4301	80	4983	11949	19481	27345	35382	43470	51513	59451	67245	41857	80
-90	-8561	-4777	90	5646	12681	20256	28143	36190	44278	52312	60237	68015	75608	90
-100	-8824	-5237	100	6317	13419	21033	28943	36999	45085	53110	61022	68783	76358	100

Type J Thermocouple

• KSC 1602 2024 • ASTM E230 2023(ANSI MC 96.1) • IEC-60584-1 2013 Unit : μV

°C	-100	0	°C	0	100	200	300	400	500	600	700	800	900	1000	1100	°C
0	-4632	0	0	0	5268	10777	16325	21846	27388	33096	39130	45498	51875	57942	63777	0
-10	-5036	-501	10	507	5812	11332	16879	22397	27949	33638	39754	46144	52496	58533	64355	10
-20	-5426	-995	20	1019	6359	11887	17432	22949	28511	34273	40382	46790	53115	59121	64933	20
-30	-5801	-1481	30	1536	6907	12442	17984	23501	29075	34867	41013	47434	53729	59708	65510	30
-40	-6159	-1960	40	2058	7457	12998	18537	24054	29642	35464	41647	48076	54341	60293	66087	40
-50	-6499	-2431	50	2585	8008	13553	19089	24607	30210	36066	42283	48716	54948	60876	66664	50
-60	-6821	-2892	60	3115	8560	14108	19640	25161	30782	36671	42922	49354	55553	61459	67240	60
-70	-7122	-3344	70	3649	9113	14663	20192	25716	31356	37280	43563	49989	56155	62039	67815	70
-80	-7402	-3785	80	4186	9667	15217	20743	26272	31933	37893	44207	50621	56753	62619	68390	80
-90	-7659	-4215	90	4725	10222	15771	21295	26829	32513	38510	44852	51249	57349	63199	68964	90
-100	-7890	-4632	100	5268	10777	16325	21846	27388	33096	39130	45498	51875	57942	63777	69536	100

Type T Thermocouple

• KSC 1602 2024 • ASTM E230 2023(ANSI MC 96.1) • IEC-60584-1 2013 Unit : μV

°C	-200	-100	0	°C	0	100	200	300	°C
0	-5603	-3378	0	0	0	4277	9286	14860	0
-10	-5753	-3656	-383	10	391	4749	9820	15443	10
-20	-5889	-3923	-757	20	789	5227	10360	16030	20
-30	-6007	-4177	-1121	30	1196	5712	10905	16621	30
-40	-6105	-4419	-1475	40	1611	6204	11456	17217	40
-50	-6181	-4648	-1819	50	2035	6702	12011	17816	50
-60	-6232	-4865	-2152	60	2467	7207	12572	18420	60
-70	-6258	-5069	-2475	70	2908	7718	13137	19027	70
-80		-5261	-2788	80	3357	8235	13707	19638	80
-90		-5439	-3089	90	3813	8757	14281	20252	90
-100		-5603	-3387	100	4277	9286	14860	20869	100

Temperature-EMF table for thermocouples

Type B Thermocouple

• KSC 1602 2024 • ASTM E230 2023(ANSI MC 96.1) • IEC-60584-1 2013 Unit : μV

°C	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	°C
0	0	33	178	431	786	1241	1791	2430	3154	3957	4833	5777	6783	7845	8952	10094	11257	12426	13585	0
10	-2	43	199	462	827	1292	1851	2499	3232	4041	4924	5875	6887	7953	9065	10210	11374	12543	13699	10
20	-3	53	220	494	870	1344	1912	2569	3308	4126	5016	5973	6991	8063	9178	10325	11491	12659	13814	20
30	-2	65	243	527	913	1397	1974	2639	3387	4212	5109	6073	7096	8172	9291	10441	11608	12776		30
40	0	78	266	561	957	1450	2036	2710	3466	4298	5202	6172	7202	8283	9405	10558	11725	12892		40
50	2	92	291	596	1002	1505	2100	2782	3546	4386	5297	6273	7308	8393	9519	10674	11842	13008		50
60	6	107	317	632	1048	1560	2164	2855	3266	4474	5391	6374	7414	8504	9634	10790	11959	13124		60
70	11	123	344	669	1095	1617	2230	2928	3708	4562	5487	6475	7521	8616	9748	10907	12076	13239		70
80	17	140	372	707	1143	1674	2296	3003	3790	4652	5583	6577	7628	8727	9863	11024	12193	13354		80
90	25	159	401	746	1192	1732	2363	3078	3873	4742	5680	6680	7376	8839	9974	11141	12310	13470		90
100	33	178	431	786	1241	1797	2430	3154	3957	4833	5777	6783	7845	8952	10094	11257	12426	13585		100

Type R Thermocouple

• KSC 1602 2024 • ASTM E230 2023(ANSI MC 96.1) • IEC-60584-1 2013 Unit : μV

°C	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	°C
0	0	647	1468	2400	3407	4474	5582	6741	7949	9203	10503	11846	13224	14624	16035	17445	18842	20215	0
10	54	723	1557	2498	3511	4580	5696	6860	8072	9331	10636	11983	13363	14765	16176	17726	18981	20350	10
20	111	807	1647	2596	3616	4689	5810	6979	8196	9460	10768	12119	13502	14906	16316	17726	19119	20483	20
30	171	879	1738	2695	3721	4799	5925	7098	8320	9589	10902	12257	13642	15047	16458	17866	19257	20616	30
40	232	959	1830	2795	3826	4910	6040	7218	8445	9718	11035	12394	13782	15188	16599	18006	19395	20748	40
50	296	1041	1923	2896	3933	5021	6155	7339	8570	9848	11170	12532	13922	15329	16741	18146	19533	20878	50
60	363	1124	2017	2997	4039	5132	6272	7460	8696	9978	11304	12669	14062	15470	16882	18286	19670	21006	60
70	431	1208	2111	3099	4146	5244	6388	7582	8822	10109	11439	12808	14202	15611	17022	18425	19807		70
80	501	1294	2207	3201	4254	5356	6505	7703	8949	10240	11574	12946	14343	15752	17163	18564	19944		80
90	573	1380	2303	3304	4362	5469	6623	7826	9076	10371	11710	13085	14483	15893	17304	18703	20080		90
100	647	1468	2400	3407	4471	5582	6741	7949	9203	10503	11846	13224	14624	16035	17445	18842	20215		100

Type S Thermocouple

• KSC 1602 2024 • ASTM E230 2023(ANSI MC 96.1) • IEC-60584-1 2013 Unit : μV

°C	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	°C
0	0	645	1440	2323	3260	4234	5237	6274	7345	8448	9585	10754	11947	13155	14368	15576	16771	17942	0
10	55	719	1525	2414	3356	4333	5339	6380	7454	8560	9700	10872	12067	13276	14489	15697	16890	18056	10
20	113	795	1611	2506	3452	4432	5442	6486	7563	8673	9816	10991	12188	13397	14610	15817	17008	18170	20
30	173	872	1698	2599	3549	4532	5544	6592	7672	8786	9932	11110	12308	13519	14731	15937	17125	18282	30
40	235	950	1785	2692	3645	4632	5648	6699	7782	8899	10048	11229	12429	13640	14852	16057	17243	18394	40
50	299	1029	1873	2786	3743	4732	5751	6805	7892	9012	10165	11348	12550	13761	14973	16176	17360	18504	50
60	365	1109	1962	2880	3840	4832	5855	6913	8003	9126	10282	11467	12671	13883	15094	16296	17477	18612	60
70	432	1190	2051	2974	3938	4933	5960	7020	8114	9240	10400	11587	12792	14004	15215	16415	17594		70
80	502	1273	2141	3069	4036	5034	6064	7128	8225	9355	10517	11707	12913	14125	15336	16534	17711		80
90	573	1356	2232	3164	4135	5136	6169	7236	8336	9470	10635	11827	13034	14247	15456	16653	17826		90
100	645	1440	2323	3260	4234	5237	6274	7345	8448	9585	10754	11947	13155	14368	15576	16771	17942		100

Loop Resistance of Conductor by Size

Unit: Ω/m

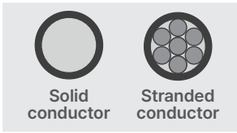
Nominal crosssectional area (mm²)	Symbol									
	BC	RCA RCB SCA SCB	NX	NC	KX	KCA	KCB	EX	JX	TX
0.2	0.18	0.400	6.60	1.30	5.00	3.30	2.80	6.30	3.30	2.80
0.3	0.12	0.282	5.00	0.80	3.60	2.50	2.10	4.50	2.50	2.10
0.5	0.08	0.170	3.00	0.66	2.20	1.40	1.20	2.70	1.40	1.20
0.75	0.05	0.110	2.00	0.44	1.50	0.95	0.75	1.80	0.95	0.75
1.25	0.04	0.080	1.30	0.26	1.00	0.65	0.55	1.30	0.65	0.55
1.3	0.03	0.070	1.10	0.25	0.90	0.55	0.45	1.10	0.55	0.45
1.5	0.03	0.060	1.00	0.22	0.78	0.50	0.42	0.96	0.50	0.42
2	0.02	0.045	0.75	0.17	0.55	0.40	0.30	0.70	0.40	0.30
2.3	0.02	0.040	0.65	0.14	0.50	0.03	0.25	0.60	0.30	0.25

Definition of Cable Terms

Conductor

The conductor is the metallic part of a wire through which electrical current flows. The most common material is copper, followed by aluminum. Compensation conductors use nickel alloys.

- Core conductor : the metallic component that carries electrical current.
- Filament : a single strand of wire that forms a conductor.
- Solid conductor : a conductor made from a single filament.
- Stranded conductor : a conductor made by twisting two or more filaments together.



Conductor Specification

Solid Conductor : Diameter (mm)
Stranded Conductor : Nominal Cross-sectional Area (AWG or mm²/SQ)

AWG : Abbreviation for American Wire Gauge. It is a standard wire size system commonly used in the United States.

CORE

Single-core: composed of a single conductor strand

PAIR

Twin-core: composed of two conductor strands

Insulator

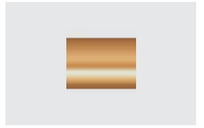
The conductor is covered with insulation to withstand operating voltage and to secure the positioning of each individual conductor within the cable.
Materials include PVC, fluoropolymer, and silicone rubber

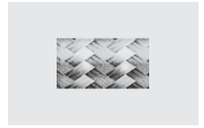
Shield

Blocks interference from electric and magnetic fields.

Spiral Shield : Al/Mylar tape helically wrapped for shielding
Braid shield: copper or aluminum woven into a mesh for shielding


Al/Mylar


Copper Tape


Tinned Copper Braid


Steel wire Armor

Drain

Drain wire

Sheath

Refers to the protective jacket covering the insulated conductor core

Outer Jacket

Used to mechanically reinforce the cable

Dielectric Strength

Dielectric strength refers to the maximum voltage an insulating material can withstand. It is evaluated using two test methods: the breakdown voltage test (short-duration method), which measures the voltage at which insulation fails as voltage is gradually increased, and the withstand voltage test (step method), which applies a set voltage for a defined time to check for defects. Typically, the withstand voltage is set at more than twice the cable's operating voltage.

Insulation Resistance

A small portion of the current flowing through the conductor is transferred through the insulation's surface and body. This leakage is expressed as insulation resistance. As the cable length increases, the total leakage current rises and the insulation resistance decreases accordingly. It is measured in ohms (Ω), typically expressed per kilometer as MΩ·km.

Cable Drum Handing Guidelines

<table>
<tr><td rowspan="4">Load and transport</td><td colspan="2">(1)Transportation is carried out using cranes or forklifts</td></tr>
<tr><td>• When using a crane</td><td>• When using a Forklifts</td></tr>
<tr><td>Use ropes and support bars of the rated capacity, and always insert the support bar into the drum shaft hole when transporting.

※ Precautions
- Keep the drum parallel to the supporting surface
- Move slowly and do not brake abruptly when lowering
- Use a crane with a lifting capacity greater than the drum weight</td><td>Ensure that the drum does not get hit by the forklift forks and does not drag on the ground. The drum may fall and cause an accident. Always use a forklift or crane with a lifting capacity greater than the drum weight.

※ Precautions
- Position the drum at the center of the forklift fork width
- Use forklift forks longer than the drum
- Use a forklift with a lifting capacity greater than the drum weight</td></tr>
<tr><td> 
</td><td> 
⚠ Caution!
The drum may fall and cause an accident. Always use a forklift or crane with a lifting capacity greater than the drum weight.</td></tr>
<tr><td colspan="2">(2) Before loading, carefully inspect the vehicle bed to ensure there are no nails or other objects that could damage the drum.
(3) Once the drum is loaded onto the vehicle, secure it firmly with ropes and place chocks at all four corners to prevent it from shifting.
(4) Drive at a safe speed to prevent the drum from falling during transport. When passing under overpasses, elevated roads, or through underpasses, reduce speed and take appropriate precautions to avoid the drum coming into contact with any overhead structures.</td></tr>
<tr><td>Carrying and Unloading</td><td>(1) Always use a forklift or crane for loading and unloading. Never drop the drum onto the ground under any circumstances
(2) Never roll a drum on uneven surfaces or if the drum is damaged
(3) If the drum needs to be rolled after unloading, roll it in the direction opposite to the cable unwinding direction (as indicated by the arrow)</td><td> 
⚠ Caution!
The drum may fall and cause an accident.Always use a forklift or crane when loading or unloading.</td></tr>
<tr><td>Storage</td><td>(1) Store drums in a dry, level area where water cannot collect, and secure them with chocks at both the front and rear.
(2) Keep drums in an area free from chemical deposits or leaks, and away from open flames or excessive heat.
(3) Do not store drums on their side or stack them more than one layer high.
(4) If the storage area is also used for other tasks, clearly mark it as a restricted area and implement appropriate safety measures.</td><td> 
⚠ Caution!
The drum may roll and cause an accident.Please store the drum on a flat surface with chocks installed.</td></tr>
<tr><td>Cable laying</td><td colspan="2">(1) Always identify and separate the positive and negative conductors when working with compensation cables.
(2) During installation and operation, ensure that the tension applied to the cable does not exceed the specified allowable tensile strength, and avoid any sudden changes in tension.
(3) Observe the minimum bending radius to prevent excessive bending that could damage the cable during installation or use.
(4) For cables with a PVC outer sheath, do not handle or install the cable or drum if the ambient temperature is below -10 °C, as the sheath may crack.
(5) Do not expose the cable to direct impacts or excessive compression during installation or operation.</td></tr>
<tr><td>Disposal</td><td colspan="2">(1) Disposal must be performed by authorized and qualified personnel only.
(2) When disposing of the cable and drum, handle them in a way that prevents any reuse or repurposing by unauthorized individuals.</td></tr>
</table>

YUCHANG E&C

Manufacture For Extension Compensating Wires and Thermocouple