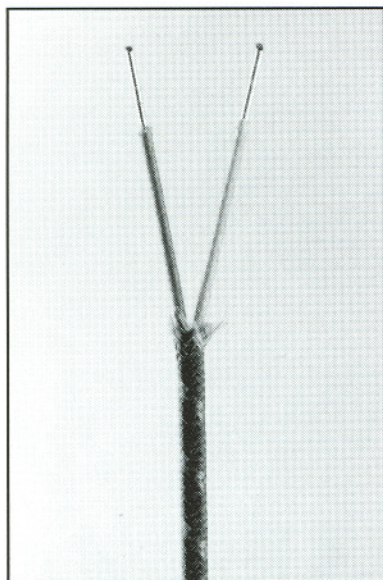


Thermocouple Wire



GG Fiberglass

PRODUCT DESCRIPTION

Most popular and widely applied of all glass insulation's. A color-coded fiberglass braid saturated with a high-performance resin is used for insulation of the single conductors and jacket.

PERFORMANCE FEATURES

- Designed for continuous use at temperatures to 950°F (480°C), intermittent use to 1200°F (540°C).
- Good moisture and chemical resistance; fair abrasion resistance

APPLICATIONS

- Heat Treating
- Glass & Ceramic Kilns
- Foundries
- Extensive applications in aluminum processing

Insulation Color Code: Positive - Yellow Negative - Red Overall - Brown

Order Code	Insulation		AWG No.	Type Wire	Temperature (°F)		Nominal Size (in)	Weight/ 1000 ft.
	Singles	Jacket			Continuous	Intermittent		
K-14-GG	Fiberglas	Fiberglas	14	Solid	950	1200	.102 x .185	34
K-16-GG	Fiberglas	Fiberglas	16	Solid	950	1200	.087 x .155	25
K-20-GG	Fiberglas	Fiberglas	20	Solid	950	1200	.058 x .105	9
K-20S-GG	Fiberglas	Fiberglas	20	Strd	950	1200	.065 x .125	10
K-24-GG	Fiberglas	Fiberglas	24	Solid	950	1200	.042 x .070	5

Calibration:
ANSI Type K
Chromel/Alumel

Insulation Color Code: Positive - White Negative - Red Overall - Brown

Order Code	Insulation		AWG No.	Type Wire	Temperature (°F)		Nominal Size (in)	Weight/ 1000 ft.
	Singles	Jacket			Continuous	Intermittent		
J-14-GG	Fiberglas	Fiberglas	14	Solid	950	1200	.102 x .185	34
J-16-GG	Fiberglas	Fiberglas	16	Solid	950	1200	.087 x .155	18
J-20-GG	Fiberglas	Fiberglas	20	Solid	950	1200	.058 x .105	9
J-20S-GG	Fiberglas	Fiberglas	20	Strd	950	1200	.065 x .125	10
J-24-GG	Fiberglas	Fiberglas	24	Solid	950	1200	.042 x .070	5

Calibration:
ANSI Type J
Iron/Constantan

Insulation Color Code: Positive - Purple Negative - Red Overall - Brown

Order Code	Insulation		AWG No.	Type Wire	Temperature (°F)		Nominal Size (in)	Weight/ 1000 ft.
	Singles	Jacket			Continuous	Intermittent		
E-20-GG	Fiberglas	Fiberglas	20	Solid	950	1200	.058 x .105	9
E-20S-GG	Fiberglas	Fiberglas	20	Strd	950	1200	.065 x .125	9
E-24-GG	Fiberglas	Fiberglas	24	Solid	950	1200	.042 x .070	5

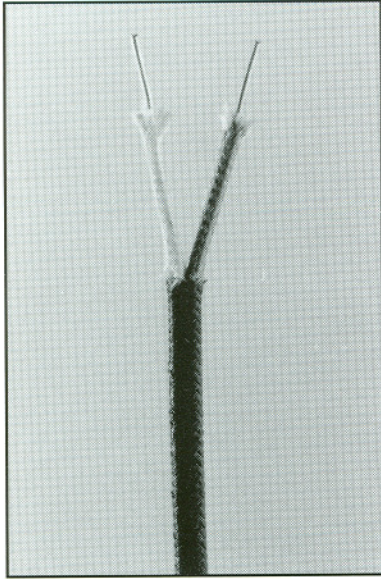
Calibration:
ANSI Type E
Chromel/Constantan

Insulation Color Code: Positive - Blue Negative - Red Overall - Brown

Order Code	Insulation		AWG No.	Type Wire	Temperature (°F)		Nominal Size (in)	Weight/ 1000 ft.
	Singles	Jacket			Continuous	Intermittent		
T-20-GG	Fiberglas	Fiberglas	20	Solid	950	1200	.058 x .105	9
T-20S-GG	Fiberglas	Fiberglas	20	Strd	950	1200	.065 x .125	9
T-24-GG	Fiberglas	Fiberglas	24	Solid	950	1200	.042 x .070	5

Calibration:
ANSI Type T
Copper/Constantan

Thermocouple Wire



HGHG High Temp Glass

PRODUCT DESCRIPTION

A high-temperature, high tensile strength fiberglass, either color-coded or with tracer yarn, is braided on both the single conductors and the overall jacket. Both are impregnated with a 500°F modified resin saturant.

PERFORMANCE FEATURES

- Designed for continuous use at temperatures to 1200°F (650°C), intermittent use to 1450°F (790°C).
- Good moisture and abrasion resistance

APPLICATIONS

- Preheating & Stress Relieving of Forgings
- Heat Treating for annealing, aging, or hardening
- Furnace Temperature Surveys

Insulation Color Code: Positive - Yellow Tracer Negative - Red Tracer Overall - White with Yellow Tracer

Order Code	Insulation		AWG No.	Type Wire	Temperature (°F)		Nominal Size (in)	Weight/1000 ft.
	Singles	Jacket			Continuous	Intermittent		
K-14-HGHG	Hi TempFiberglas	Hi Temp Fiberglas	14	Solid	1200	1500	.115 x .205	36
K-16-HGHG	Hi TempFiberglas	Hi Temp Fiberglas	16	Solid	1200	1500	.105 x .185	20
K-20-HGHG	Hi TempFiberglas	Hi Temp Fiberglas	20	Solid	1200	1500	.085 x .145	15
K-24-HGHG	Hi TempFiberglas	Hi Temp Fiberglas	24	Solid	1200	1500	.075 x .120	10

Calibration:
ANSI Type K
Chromel/Alumel

Insulation Color Code: Positive - White Negative - Red Tracer Overall - White with Black Tracer

Order Code	Insulation		AWG No.	Type Wire	Temperature (°F)		Nominal Size (in)	Weight/1000 ft.
	Singles	Jacket			Continuous	Intermittent		
J-14-HGHG	Hi TempFiberglas	Hi Temp Fiberglas	14	Solid	1200	1500	.115 x .205	36
J-16-HGHG	Hi TempFiberglas	Hi Temp Fiberglas	16	Solid	1200	1500	.105 x .185	20
J-20-HGHG	Hi TempFiberglas	Hi Temp Fiberglas	20	Solid	1200	1500	.085 x .145	15
J-24-HGHG	Hi TempFiberglas	Hi Temp Fiberglas	24	Solid	1200	1500	.075 x .120	10

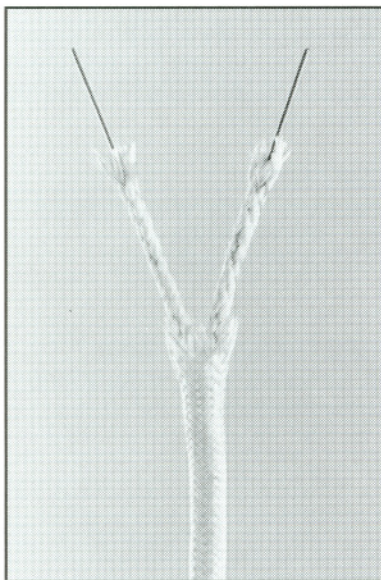
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Iron/Constantan

Insulation Color Code: Positive - Purple Tracer Negative - Red Tracer Overall - White with Purple Tracer

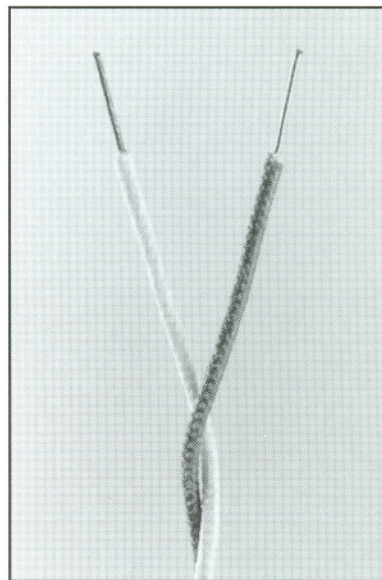
Order Code	Insulation		AWG No.	Type Wire	Temperature (°F)		Nominal Size (in)	Weight/1000 ft.
	Singles	Jacket			Continuous	Intermittent		
E-20-HGHG	Hi TempFiberglas	Hi Temp Fiberglas	20	Solid	1200	1500	.085 x .145	15

Calibration:
ANSI Type E
Chromel/Constantan

Thermocouple Wire



RR Refrasil (Vitreous Silica)



STW High Temp "S" Glass

PRODUCT DESCRIPTION

High temperature silica fibers are braided on the single conductors as well as the overall jacket. Because saturant is not used, this product is not recommended for abrasive applications. Each conductor as well as the overall jacket is braided with this high temperature yarn to provide maximum flexibility at extremely high temperatures. A tracer is braided into insulation for polarity and calibration identification.

PERFORMANCE FEATURES

- Designed for continuous use at temperatures to 1800°F (980°C), intermittent use to 2000°F (1095°C).
- Not recommended for applications where insulation may be subject to abrasion.

APPLICATIONS

- Furnace survey thermocouples
- Heat treating

PRODUCT DESCRIPTION

A high temperature, high tensile strength, extra heavy fiber glass yarn is braided over each conductor. The insulated, color-coded conductors are impregnated with high-temperature modified resin and twisted to form a pair. This product construction does not include an overall jacket.

PERFORMANCE FEATURES

- Designed for continuous use at temperatures to 1200°F (650°C), intermittent readings to 1450°F (790°C).
- Good abrasion resistance
- Easily stripped and terminated
- Economically practical for short-duration applications

APPLICATIONS

- Homogenizing furnaces for billet preheating
- Furnace temperature surveys
- Heat treating

Insulation Color Code: Positive - Yellow Tracer Negative - Red Tracer Overall - Yellow Tracer

Order Code	Insulation		AWG No.	Type Wire	Temperature (°F)		Nominal Size (in)	Weight/ 1000 ft.
	Singles	Jacket			Continuous	Intermittent		
K-20-RR	Refrasil	Refrasil	20	Solid	1800	2000	.102 x .168	15
K-24-RR	Refrasil	Refrasil	24	Solid	1800	2000	.090 x .145	5

Calibration:
ANSI Type K
Chromel/Alumel

Insulation Color Code: Positive - White Negative - Red Tracer Overall - Black Tracer

J-20-RR	Refrasil	Refrasil	20	Solid	1800	2000	.102 x .168	15
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Calibration:
ANSI Type J
Iron/Constantan

Insulation Color Code: Positive - Purple Tracer Negative - Red Tracer Overall - White with Purple Tracer

E-20-RR	Refrasil	Refrasil	20	Solid	1800	2000	.102 x .168	15
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Calibration:
ANSI Type E
Chromel/Constantan

Insulation Color Code: Positive - Yellow Negative - Red

K-20-STW	Hi Temp Fiberglas	None: Single Twisted	20	Solid	1200	1500	.102 x .168	15
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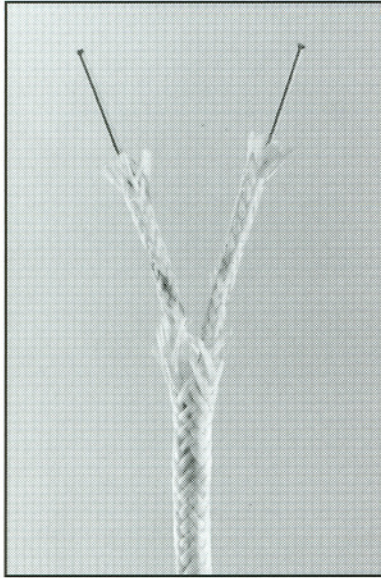
Calibration:
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Chromel/Alumel

Insulation Color Code: Positive - White Negative - Red

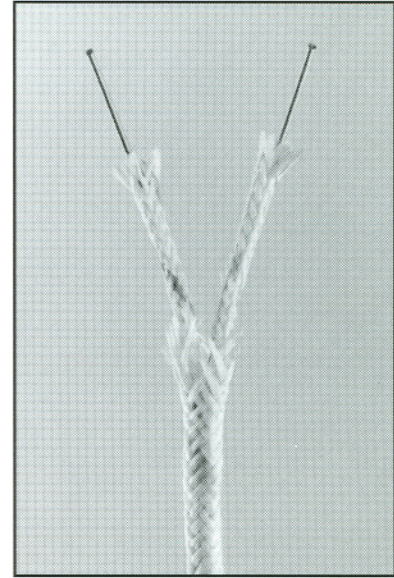
J-20-STW	Hi Temp Fiberglas	None: Single Twisted	20	Solid	1200	1500	.102 x .168	15
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Calibration:
ANSI Type J
Iron/Constantan

Thermocouple Wire



CFCF Ceramic Fiber



MCFCF Ceramic Fiber

PRODUCT DESCRIPTION

Highest temperature flexible insulation available. The braided yarn is a composition of the oxides of alumina, boric and silicone. Each conductor as well as the overall jacket are braided with this high temperature yarn to provide maximum flexibility at extremely high temperatures.

PERFORMANCE FEATURES

- Designed for continuous use at temperatures to 2200°F (1205°C), intermittent use to 2600°F (1430°C).
- Good abrasion and chemical resistance.

APPLICATIONS

- As a replacement for beaded thermocouples
- Heat treating
- Coke ovens
- Soaking pits
- Furnace survey thermocouples
- Brick & tile kilns

PRODUCT DESCRIPTION & PERFORMANCE FEATURES

This construction has a mica barrier tape applied to each single conductor prior to being insulated with the ceramic fiber yarns. The construction is identical to the CFCF construction shown in the adjacent column except for the addition of a light jacket saturant and the mica tape, which protects against potential shorting from the back carbon residue which forms when the product is used in applications where the air is limited, such as thermocouples in protection tubes. The mica may also provide moisture protection during temperature cycling.

APPLICATIONS

- For use in closed tubes or protected atmosphere
- As a replacement for beaded thermocouples
 - Heat treating
 - Coke ovens
 - Soaking pits
 - Furnace survey thermocouples
 - Brick & tile kilns

Insulation Color Code: Positive - Yellow Tracer Negative - Red Tracer Overall - White with Yellow Tracer

Order Code	Insulation		AWG No.	Type Wire	Temperature (°F)		Nominal Size (in)	Weight/ 1000 ft.
	Singles	Jacket			Continuous	Intermittent		
K-14-MCFCF	Mica Ceramic Braid	Ceramic Braid	14	Solid	2200	2600	.160 x .280	42
K-16-MCFCF	Mica Ceramic Braid	Ceramic Braid	16	Solid	2200	2600	.145 x .255	30
K-20-MCFCF	Mica Ceramic Braid	Ceramic Braid	20	Solid	2200	2600	.125 x .195	16
K-14-CFCF	Ceramic Braid	Ceramic Braid	14	Solid	2200	2600	.138 x .235	40
K-16-CFCF	Ceramic Braid	Ceramic Braid	16	Solid	2200	2600	.120 x .210	28
K-20-CFCF	Ceramic Braid	Ceramic Braid	20	Solid	2200	2600	.110 x .180	14

Calibration:
ANSI Type K
Chromel/Alumel

Insulation Color Code: Positive - White Negative - Red Tracer Overall - White with Black Tracer

J-20-MCFCF	Mica Ceramic Braid	Ceramic Braid	20	Solid	2200	2600	.125 x .195	16
J-20-CFCF	Ceramic Braid	Ceramic Braid	20	Solid	2200	2600	.110 x .180	14

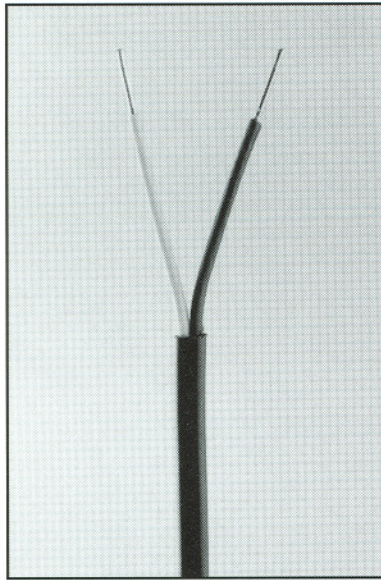
Calibration:
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Iron/Constantan

Insulation Color Code: Positive - Purple Tracer Negative - Red Tracer Overall - White with Purple Tracer

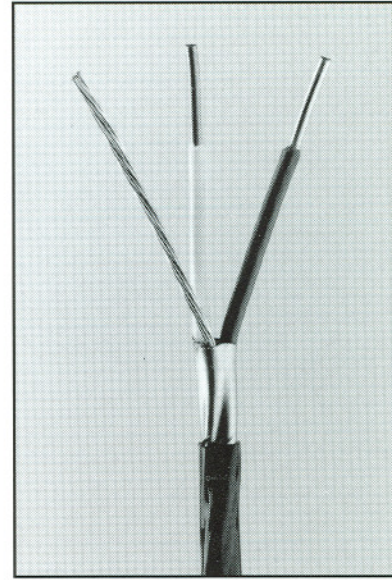
E-20-MCFCF	Mica Ceramic Braid	Ceramic Braid	20	Solid	2200	2600	.125 x .195	16
E-20-CFCF	Ceramic Braid	Ceramic Braid	20	Solid	2200	2600	.110 x .180	14

Calibration:
ANSI Type E
Chromel/Constantan

Thermocouple Wire



TT Extruded, FEP Teflon*



TAT Extruded, Shielded FEP Teflon*

PRODUCT DESCRIPTION

Color-coded FEP Teflon* is extruded over each single conductor. The single insulated conductors are laid parallel and insulated with an extruded jacket of FEP Teflon*.

PERFORMANCE FEATURES

- Designed for continuous use at temperatures to 400°F (205°C), intermittent use to 500°F (260°C).
- Most economic and popular of the Teflon* constructions.
- Excellent low-friction jacket facilitates easy pulling of wire through conduits.

APPLICATIONS

- Power generating plants
- Petroleum plants
- Field heat treating

PRODUCT DESCRIPTION

Color-coded FEP Teflon* is extruded over each single conductor. Insulated conductors are twisted with a stranded drain wire, and the twisted construction is covered with an aluminum/Mylar tape.

PERFORMANCE FEATURES

- Designed for continuous use at temperatures to 400°F (260°C), intermittent use to 500°F (260°C).
- Twisted/Shielded construction minimizes electrical interference.
- Excellent abrasion, moisture and chemical resistance.

APPLICATIONS

- Power generating plants
- Petroleum plants
- Field heat treating

Insulation Color Code: Positive - Yellow Negative - Red Overall - Brown

Order Code	Insulation		AWG No.	Type Wire	Temperature (°F)		Nominal Size (in)	Weight/ 1000 ft.
	Singles	Jacket			Continuous	Intermittent		
K-20-TT	FEP Teflon*	FEP Teflon*	20	Solid	400	500	.067 x .115	11
K-20-TAT	FEP Teflon*	FEP Teflon* Tw/Sh	20	Solid	400	500	.135	20
K-24-TT	FEP Teflon*	FEP Teflon*	24	Solid	400	500	.055 x .090	7

Calibration:
ANSI Type K
Chromel/Alumel

Insulation Color Code: Positive - White Negative - Red Overall - Brown

Order Code	Insulation		AWG No.	Type Wire	Temperature (°F)		Nominal Size (in)	Weight/ 1000 ft.
	Singles	Jacket			Continuous	Intermittent		
J-20-TT	FEP Teflon*	FEP Teflon*	20	Solid	400	500	.067 x .115	11
J-20-TAT	FEP Teflon*	FEP Teflon* Tw/Sh	20	Solid	400	500	.135	20
J-24-TT	FEP Teflon*	FEP Teflon*	24	Solid	400	500	.060 x .100	7

Calibration:
ANSI Type J
Iron/Constantan

Insulation Color Code: Positive - Purple Negative - Red Overall - Brown

Order Code	Insulation		AWG No.	Type Wire	Temperature (°F)		Nominal Size (in)	Weight/ 1000 ft.
	Singles	Jacket			Continuous	Intermittent		
E-20-TT	FEP Teflon*	FEP Teflon*	20	Solid	400	500	.067 x .115	11
E-20-TAT	FEP Teflon*	FEP Teflon* Tw/Sh	20	Solid	400	500	.135	20
E-24-TT	FEP Teflon*	FEP Teflon*	24	Solid	400	500	.055 x .090	7

Calibration:
ANSI Type E
Chromel/Constantan

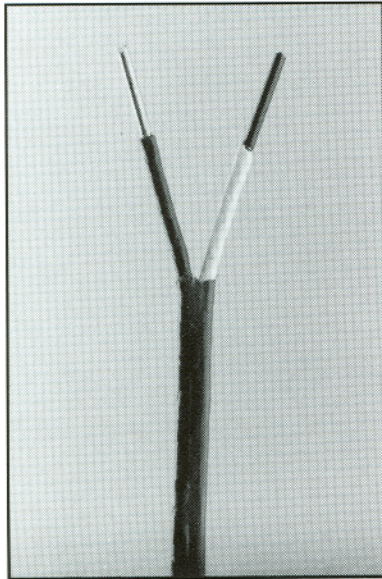
Insulation Color Code: Positive - Blue Negative - Red Overall - Brown

Order Code	Insulation		AWG No.	Type Wire	Temperature (°F)		Nominal Size (in)	Weight/ 1000 ft.
	Singles	Jacket			Continuous	Intermittent		
T-20-TT	FEP Teflon*	FEP Teflon*	20	Solid	400	500	.067 x .115	11
T-20-TAT	FEP Teflon*	FEP Teflon* Tw/Sh	20	Solid	400	500	.135	20
T-24-TT	FEP Teflon*	FEP Teflon*	24	Solid	400	500	.055 x .090	7

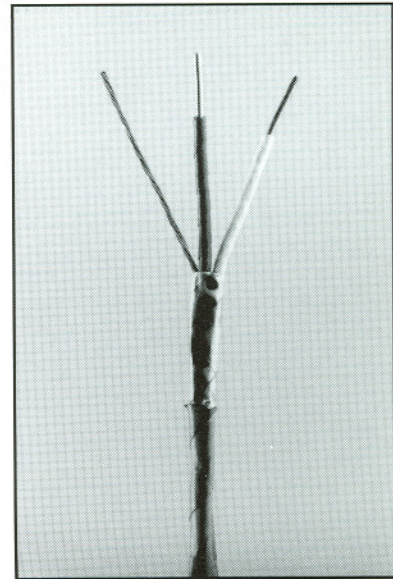
Calibration:
ANSI Type T
Copper/Constantan

*Trademark of E.I. DuPont

Thermocouple Wire



TFTF Fused TFE Tape



TFATF Fused Shielded TFE Tape

PRODUCT DESCRIPTION

A double wrap of heat-fused TFE tape is spirally applied over each single conductor and as an overall jacket. Duplex construction.

PERFORMANCE FEATURES

- Designed for continuous use at temperatures to 500°F (260°C), intermittent use to 600°F (315°C).
- Exhibits all the advantages of an extruded product while providing the additional temperature rating.
- Excellent moisture and chemical resistance; good abrasion resistance.

APPLICATIONS

- Petroleum plants
- Power plants
- Aircraft bonding
- Glass, ceramic & brick applications

PRODUCT DESCRIPTION

A double wrap of heat-fused tape is spirally applied over each single conductor. Insulated conductors are twisted with a stranded drain wire and the twisted construction is covered with an aluminum/ Kapton* tape. The outer jacket consists of double-wrapped heat-fused TFE tape.

PERFORMANCE FEATURES

- Designed for continuous use at temperatures to 500°F (260°C), intermittent use to 600°F (315°C).
- Exhibits all the advantages of an extruded product while providing the additional temperature rating.
- Excellent moisture and chemical resistance; good abrasion resistance.
- Twisted/Shielded construction minimizes electrical interference.

APPLICATIONS

- Petroleum plants
- Power plants
- Aircraft bonding
- Glass, ceramic & brick applications

Insulation Color Code: Positive - Yellow

Negative - Red

Overall - Brown

Order Code	Insulation		AWG No.	Type Wire	Temperature (°F)		Nominal Size (in)	Weight/ 1000 ft.
	Singles	Jacket			Continuous	Intermittent		
K-20-TFTF	TFE Tape	TFE Tape	20	Solid	500	600	.060 x .104	11
K-24-TFTF	TFE Tape	TFE Tape	24	Solid	500	600	.050 x .080	5
K-20-TFATF	TFE Tape	TFE Tape Tw/Sh	20	Solid	500	600	.135	17

Calibration:
ANSI Type K
Chromel/Alumel

Insulation Color Code: Positive - White

Negative - Red

Overall - Brown

Order Code	Insulation		AWG No.	Type Wire	Temperature (°F)		Nominal Size (in)	Weight/ 1000 ft.
	Singles	Jacket			Continuous	Intermittent		
J-20-TFTF	TFE Tape	TFE Tape	20	Solid	500	600	.060 x .104	11
J-24-TFTF	TFE Tape	TFE Tape	24	Solid	500	600	.050 x .080	5
J-20-TFATF	TFE Tape	TFE Tape Tw/Sh	20	Solid	500	600	.135	17

Calibration:
ANSI Type J
Iron/Constantan

Insulation Color Code: Positive - Purple

Negative - Red

Overall - Brown

Order Code	Insulation		AWG No.	Type Wire	Temperature (°F)		Nominal Size (in)	Weight/ 1000 ft.
	Singles	Jacket			Continuous	Intermittent		
E-20-TFTF	TFE Tape	TFE Tape	20	Solid	500	600	.060 x .104	11
E-24-TFTF	TFE Tape	TFE Tape	24	Solid	500	600	.050 x .080	5
E-20-TFATF	TFE Tape	TFE Tape Tw/Sh	20	Solid	500	600	.135	17

Calibration:
ANSI Type E
Chromel/Constantan

Insulation Color Code: Positive - Blue

Negative - Red

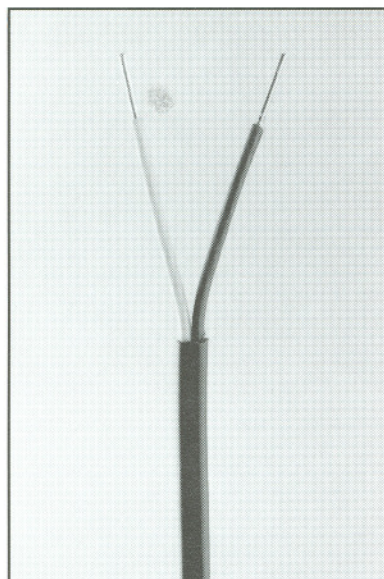
Overall - Brown

Order Code	Insulation		AWG No.	Type Wire	Temperature (°F)		Nominal Size (in)	Weight/ 1000 ft.
	Singles	Jacket			Continuous	Intermittent		
T-20-TFTF	TFE Tape	TFE Tape	20	Solid	500	600	.060 x .104	11
T-24-TFTF	TFE Tape	TFE Tape	24	Solid	500	600	.050 x .080	5
T-20-TFATF	TFE Tape	TFE Tape Tw/Sh	20	Solid	500	600	.135	17

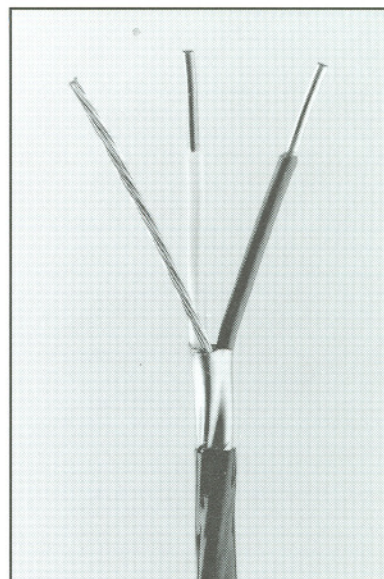
Calibration:
ANSI Type T
Copper/Constantan

*Trademark of E.I. DuPont

Thermocouple Wire



PFPF Extruded PFA Teflon*



PFAPF Extruded, Shielded PFA Teflon*

PRODUCT DESCRIPTION

Color-coded PFA Teflon* is extruded over each single conductor. A PFA Teflon* jacket is extruded over the insulated parallel singles to form a duplex construction.

PERFORMANCE FEATURES

- Designed for continuous use at temperatures to 500°F (260°C), intermittent use to 550°F (290°C).
- Provides the highest temperature rating of our extruded products.
- Excellent moisture and chemical resistance; good abrasion resistance.
- Very smooth finish on outer jacket.

APPLICATIONS

- Food processing plants
- Glass, ceramic and brick plants
- Power plants

PRODUCT DESCRIPTION

Color-coded PFA Teflon* is extruded over each single conductor. Insulated conductors are twisted with a stranded drain wire, and the twisted construction is covered with an aluminum/Kapton* tape. A PFA Teflon* jacket is extruded over the shielded pair.

PERFORMANCE FEATURES

- Designed for continuous use at temperatures to 500°F (260°C), intermittent use to 550°F (290°C).
- Twisted/Shielded construction minimizes electrical interference
- Excellent abrasion, moisture and chemical resistance

APPLICATIONS

- General plant installations
- Aerospace
- Glass, ceramic and Brick plants
- Power generating

Insulation Color Code: Positive - Yellow Negative - Red Overall - Brown

Order Code	Insulation		AWG No.	Type Wire	Temperature (°F)		Nominal Size (in)	Weight/ 1000 ft.
	Singles	Jacket			Continuous	Intermittent		
K-20-PFPF	PFA Teflon*	PFA Teflon*	20	Solid	500	550	.067 x .115	11
K-20-PFAPF	PFA Teflon*	PFA Teflon* Tw/Sh	20	Solid	500	550	.135	20
K-24-PFPF	PFA Teflon*	PFA Teflon*	24	Solid	500	550	.055 x .090	7

Insulation Color Code: Positive - White Negative - Red Overall - Brown

J-20-PFPF	PFA Teflon*	PFA Teflon*	20	Solid	500	550	.067 x .115	11
J-20-PFAPF	PFA Teflon*	PFA Teflon* Tw/Sh	20	Solid	500	550	.135	20
J-24-PFPF	PFA Teflon*	PFA Teflon*	24	Solid	500	550	.055 x .090	7

Insulation Color Code: Positive - Purple Negative - Red Overall - Brown

E-20-PFPF	PFA Teflon*	PFA Teflon*	20	Solid	500	550	.067 x .115	11
E-20-PFAPF	PFA Teflon*	PFA Teflon* Tw/Sh	20	Solid	500	550	.135	20
E-24-PFPF	PFA Teflon*	PFA Teflon*	24	Solid	500	550	.055 x .090	7

Insulation Color Code: Positive - Blue Negative - Red Overall - Brown

T-20-PFPF	PFA Teflon*	PFA Teflon*	20	Solid	500	550	.067 x .115	11
T-20-PFAPF	PFA Teflon*	PFA Teflon* Tw/Sh	20	Solid	500	550	.135	20
T-24-PFPF	PFA Teflon*	PFA Teflon*	24	Solid	500	550	.055 x .090	7

*Trademark of E. I. DuPont

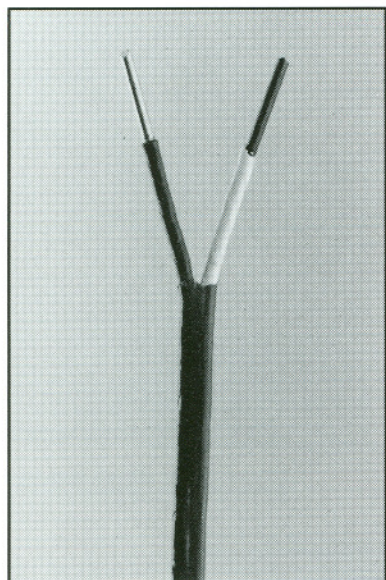
Calibration:
ANSI Type K
Chromel/Alumel

Calibration:
ANSI Type J
Iron/Constantan

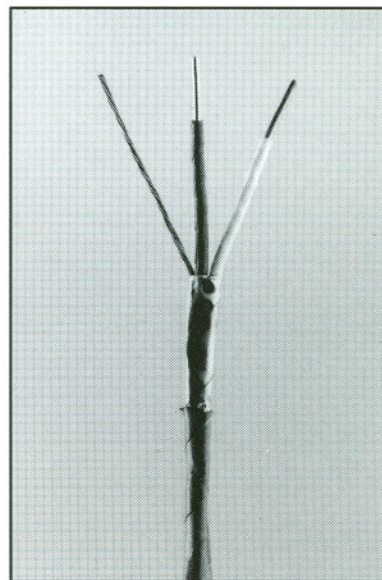
Calibration:
ANSI Type E
Chromel/Constantan

Calibration:
ANSI Type T
Copper/Constantan

Thermocouple Wire



KK Kapton* Tape



KAK Kapton* Tape

PRODUCT DESCRIPTION

Very tough, durable double wrap of heat-fused polyimide tape is applied over each conductor. Each insulated single conductor is coated with an ANSI color coded polyimide varnish. The jacket consists of a double-wrapped heat-fused polyimide tape.

PERFORMANCE FEATURES

- Designed for continuous use at temperatures to 500°F (315°C), intermittent readings to 650°F (430°C).
- Color-coded single conductor & a double-wrapped jacket offers easy polarity identification
- Excellent abrasion, moisture and chemical resistance

APPLICATIONS

- Power Plants
- Kilns
- Petroleum Plants
- Aerospace Industry
- Cryogenic Applications

PRODUCT DESCRIPTION

Very tough, durable double wrap of heat-fused polyimide tape is applied over each conductor. Insulated conductors are twisted with a stranded drain wire and the twisted construction is covered with aluminum/ Kapton* tape. The outer jacket consists of a double-wrapped heat-fused polyimide tape.

PERFORMANCE FEATURES

- Designed for continuous use at temperatures to 500°F (315°C), intermittent readings to 650°F (430°C).
- Color-coded single conductor & a double-wrapped jacket offers easy polarity identification
- Excellent abrasion, moisture and chemical resistance
- Twisted/Shielded construction minimizes electrical interference

APPLICATIONS

- Power Plants
- Kilns
- Petroleum Plants
- Aerospace Industry
- Cryogenic Applications

Insulation Color Code: Positive - Yellow Negative - Red Overall - Brown

Order Code	Insulation		AWG No.	Type Wire	Temperature (°F)		Nominal Size (in)	Weight/ 1000 ft.
	Singles	Jacket			Continuous	Intermittent		
K-16-KK	Kapton*	Kapton*	16	Solid	500	650	.072 x .140	21
K-20-KK	Kapton*	Kapton*	20	Solid	500	650	.052 x .102	11
K-20-KAK	Kapton*	Kapton* Tw/Sh	20	Solid	500	650	.120	13
K-24-KK	Kapton*	Kapton*	24	Solid	500	650	.042 x .075	5

Calibration:
ANSI Type K
Chromel/Alumel

Insulation Color Code: Positive - White Negative - Red Overall - Brown

J-16-KK	Kapton*	Kapton*	16	Solid	500	650	.072 x .140	21
J-20-KK	Kapton*	Kapton*	20	Solid	500	650	.052 x .102	11
J-24-KK	Kapton*	Kapton*	24	Solid	500	650	.042 x .075	5

Calibration:
ANSI Type J
Iron/Constantan

Insulation Color Code: Positive - Purple Negative - Red Overall - Brown

E-20-KK	Kapton*	Kapton*	20	Solid	500	650	.052 x .102	11
E-20-KAK	Kapton*	Kapton* Tw/Sh	20	Solid	500	650	.120	15
E-24-KK	Kapton*	Kapton*	24	Solid	500	650	.042 x .075	5

Calibration:
ANSI Type E
Chromel/Constantan

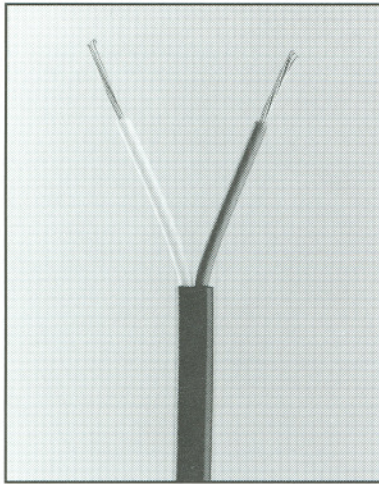
Insulation Color Code: Positive - Blue Negative - Red Overall - Brown

T-16-KK	Kapton*	Kapton*	16	Solid	500	650	.072 x .140	21
T-20-KK	Kapton*	Kapton*	20	Solid	500	650	.052 x .102	11
T-20-KAK	Kapton*	Kapton* Tw/Sh	20	Solid	500	650	.120	15

Calibration:
ANSI Type T
Copper/Constantan

* Trademark E. I. DuPont

Thermocouple Extension Wire



PP Polyvinyl Duplex

PRODUCT DESCRIPTION

The least expensive extension wire insulation available. The PVC individual color-coded conductors are insulated with 15 mils (nominal) of PVC, then parallel conductors are given a 20 mil PVC jacket. The jacket is easily stripped for separation of insulated conductors for assembly.

PERFORMANCE FEATURES

- Designed for continuous use at temperatures to 220°F (105°C),
- Good abrasion and chemical resistance.

APPLICATIONS

- Permanent sensor fabrication
- Laboratories
- Test facilities
- Short-run extension leads

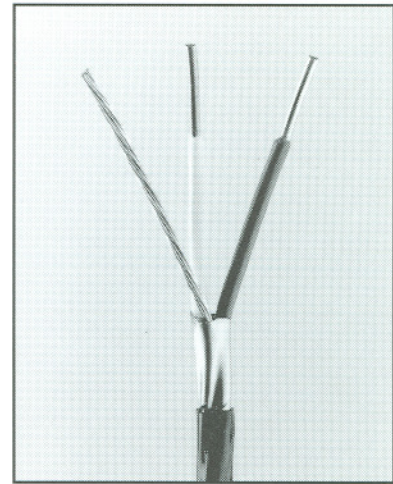
Calibration:
ANSI Type KX
Chromel/Alumel

Calibration:
ANSI Type JX
Iron/Constantan

Calibration:
ANSI Type EX
Chromel/Constantan

Calibration:
ANSI Type TX
Copper/Constantan

Calibration:
ANSI Type RSX
Copper/Alloy 11



PAP Extruded, Shielded Polyvinyl

PRODUCT DESCRIPTION

This construction is the same as the adjacent construction, except this construction has an aluminum/Mylar tape drain wire and twisted pair. This provides isolation and eliminates internal and external noise in the circuit.

PERFORMANCE FEATURES

- Continuous temperatures rating of 220°F (105°C),
- Shielded construction provides excellent noise protection.
- Excellent moisture and chemical resistance; good chemical & abrasion resistance.
- Approved UL Sub 13 PLTC.

APPLICATIONS

- General plant installation

Insulation Color Code: Positive - Yellow

Negative - Red

Overall - Yellow

Order Code	Insulation		AWG No.	Type Wire	Temp. (°F) (Continuous)	Nominal Size (in)	Weight/ 1000 ft.
	Singles	Jacket					
KX-16-PP	Polyvinyl	Polyvinyl	16	Solid	220	.120 x .207	26
KX-16-PAP	Polyvinyl	Polyvinyl Tw/Sh	16	Solid	220	.250	39
KX-16S-PP	Polyvinyl	Polyvinyl	16	Stranded	220	.140 x .230	26
KX-20-PP	Polyvinyl	Polyvinyl	20	Solid	220	.095 x .150	14
KX-20-PAP	Polyvinyl	Polyvinyl Tw/Sh	20	Solid	220	.165	22
KX-20S-PP	Polyvinyl	Polyvinyl	20	Stranded	220	.105 x .170	16

Insulation Color Code: Positive - White

Negative - Red

Overall - Black

JX-16-PP	Polyvinyl	Polyvinyl	16	Solid	220	.120 x .207	26
JX-16-PAP	Polyvinyl	Polyvinyl Tw/Sh	16	Solid	220	.250	39
JX-16S-PP	Polyvinyl	Polyvinyl	16	Stranded	220	.140 x .230	26
JX-20-PP	Polyvinyl	Polyvinyl	20	Solid	220	.095 x .150	14
JX-20-PAP	Polyvinyl	Polyvinyl Tw/Sh	20	Solid	220	.165	22
JX-20S-PP	Polyvinyl	Polyvinyl	20	Stranded	220	.105 x .170	16

Insulation Color Code: Positive - Purple

Negative - Red

Overall - Purple

EX-16-PP	Polyvinyl	Polyvinyl	16	Solid	220	.120 x .207	26
EX-16-PAP	Polyvinyl	Polyvinyl Tw/Sh	16	Solid	220	.250	39
EX-16S-PP	Polyvinyl	Polyvinyl	16	Stranded	220	.140 x .230	26
EX-20-PP	Polyvinyl	Polyvinyl	20	Solid	220	.095 x .150	14
EX-20-PAP	Polyvinyl	Polyvinyl Tw/Sh	20	Solid	220	.165	22
EX-20S-PP	Polyvinyl	Polyvinyl	20	Stranded	220	.105 x .170	16

Insulation Color Code: Positive - Blue

Negative - Red

Overall - Blue

TX-16-PP	Polyvinyl	Polyvinyl	16	Solid	220	.120 x .207	26
TX-16-PAP	Polyvinyl	Polyvinyl Tw/Sh	16	Solid	220	.250	39
TX-16S-PP	Polyvinyl	Polyvinyl	16	Stranded	220	.140 x .230	26
TX-20-PP	Polyvinyl	Polyvinyl	20	Solid	220	.095 x .150	14
TX-20-PAP	Polyvinyl	Polyvinyl Tw/Sh	20	Solid	220	.165	22
TX-20S-PP	Polyvinyl	Polyvinyl	20	Stranded	220	.105 x .170	16

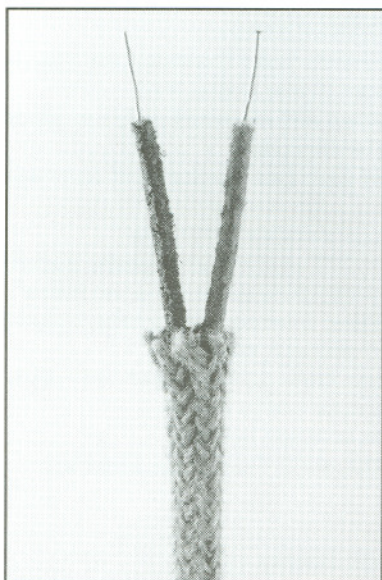
Insulation Color Code: Positive - Black

Negative - Red

Overall - Green

RSX-16-PP	Polyvinyl	Polyvinyl	16	Solid	220	.120 x .207	26
RSX-16-PAP	Polyvinyl	Polyvinyl Tw/Sh	16	Solid	220	.250	39
RSX-16S-PP	Polyvinyl	Polyvinyl	16	Stranded	220	.140 x .230	26
RSX-20-PP	Polyvinyl	Polyvinyl	20	Solid	220	.095 x .150	14
RSX-20-PAP	Polyvinyl	Polyvinyl Tw/Sh	20	Solid	220	.165	22
RSX-20S-PP	Polyvinyl	Polyvinyl	20	Stranded	220	.105 x .170	16

Thermocouple Extension Wire



SFSF Synthetic Fiber

PRODUCT DESCRIPTION

Tough, heavy insulated for use where abrasion resistance on braided insulation is required. Conductors are insulated with a braided composite synthetic yarn and impregnated with a color-coded moisture resistant saturant. The insulated conductors are laid parallel and insulated with a heavy yarn composite synthetic fiber jacket which is then coated with the same saturant*

PERFORMANCE FEATURES

- Designed for continuous use at temperatures to 500°F (260°C), intermittent use to 650°F (340°C).
- Excellent abrasion and good chemical resistance.

APPLICATIONS

- Glass & ceramic manufacturing
- Heat treating
- Metal working plants

* Above construction can be supplied with skived Teflon® tape over each conductor prior to applying the synthetic overbraid for increased chemical resistance. Contact us for the part number and ordering information.

Teflon is a trademark of E.I. DuPont.

Insulation Color Code: Positive - Yellow Negative - Red Overall - Yellow

Order Code	Insulation		AWG No.	Type Wire	Temp (°F) Continuous	Nominal Size (in)	Weight/ 1000 ft.
	Singles	Jacket					
KX-16-SFSF	Synthetic Fiber	Bridged Synthetic Fiber	16	Solid	500	.170 x .215	32
KX-20-SFSF	Synthetic Fiber	Bridged Synthetic Fiber	20	Solid	500	.140 x .200	18

Calibration:
ANSI Type KX
Chromel/Alumel

Insulation Color Code: Positive - White Negative - Red Overall - Black

JX-16-SFSF	Synthetic Fiber	Bridged Synthetic Fiber	16	Solid	500	.170 x .215	32
JX-20-SFSF	Synthetic Fiber	Bridged Synthetic Fiber	20	Solid	500	.140 x .200	18

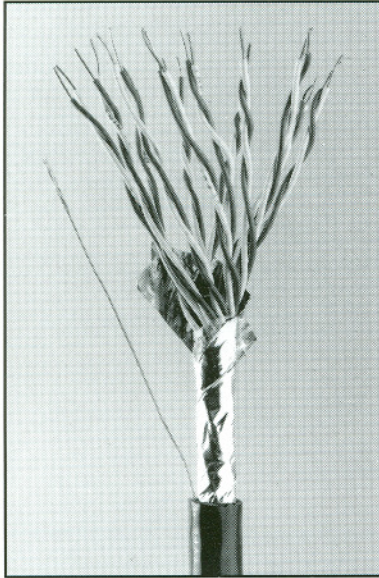
Calibration:
ANSI Type JX
Iron/Constantan

Insulation Color Code: Positive - Black Negative - Red Overall - Green

RSX-16-SFSF	Synthetic Fiber	Bridged Synthetic Fiber	16	Solid	500	.170 x .215	32
RSX-20-SFSF	Synthetic Fiber	Bridged Synthetic Fiber	20	Solid	500	.140 x .200	18

Calibration:
ANSI Type RSX
Copper/Alloy 11

Thermocouple Extension Wire



UL PLTC 300 VOLT
PVC Insulation & Jacket
Overall Shield

Cable Specifications:

Conductors: 20 AWG Solid Thermocouple Extension Wire
Single Insulation: 15 mils 105°C PVC
Color Code: Jacket and individual pairs are per ANSI MC96.1
Construction: Twisted pairs
Identification of pair: One conductor of each pair is numbered
Twist: Lay is approximately 2.5 inches
Overall Shield: .002" aluminized polyester backed tape overlapped to provide 100% coverage when flexed
Overall Drain Wire: Stranded uninsulated tinned copper in continuous contact with shield
Communications Wire: 22 AWG stranded copper wire insulated and color coded orange
Ripcord: Assists in jacket removal
Jacket Insulation: 90°C Flame retardant PVC

Features:

- UL Listed under Subject 13
- Passes IEEE 383 70,000 BTU 1 hour flame test (Non-propagating)
- Excellent moisture, chemical & abrasion resistance

Overall Shielded Cable

Order Code	Number of Pairs	Nominal Outer Jacket Thickness	Nominal O.D. (Inches)	Minimum Bending Radius (Inches)	Maximum Pulling Tension (lbs.)	Net Wt (lbs./1000 ft)
(*)-20-UPAP	1	.035	.220	1.45	26	27
(*)-2-20-UPAP	2	.042	.322	2.00	40	50
(*)-4-20-UPAP	4	.042	.370	2.50	75	76
(*)-6-20-UPAP	6	.052	.440	2.70	105	110
(*)-8-20-UPAP	8	.052	.475	3.00	142	129
(*)-10-20-UPAP	10	.052	.540	3.25	170	155
(*)-12-20-UPAP	12	.052	.560	3.25	210	175
(*)-16-20-UPAP	16	.062	.645	3.70	275	230
(*)-20-20-UPAP	20	.062	.670	4.00	330	280
(*)-24-20-UPAP	24	.062	.745	4.80	405	325
(*)-36-20-UPAP	36	.072	.890	6.00	600	470
(*)-50-20-UPAP	50	.072	.995	6.00	830	640

(*) Specify KX, JX, EX, TX, or RSX Calibration

Thermocouple Extension Wire



UL PLTC 300 VOLT

PVC Insulation & Jacket
Individual & Overall Shield

Cable Specifications:

Conductors: 20 AWG Solid Thermocouple Extension Wire
Single Insulation: 5 mils 105°C PVC
Color Code: Jacket and individual pairs are per ANSI MC96.1
Construction: Twisted pairs
Identification of pair: One conductor of each pair is numbered
Twist: Lay is approximately 2.5 inches
Pair Shield: Aluminized Polyester backed tape overlapped to provide coverage when flexed
Pair Drain Wire: Stranded uninsulated tinned copper in continuous contact with shield
Overall Shield: .002" aluminized polyester backed tape overlapped to provide 100% coverage when flexed
Overall Drain Wire: Stranded uninsulated tinned copper in continuous contact with shield
Communications Wire: 22 AWG stranded copper wire insulated and color coded orange
Ripcord: Assists in jacket removal
Jacket Insulation: 90°C Flame retardant PVC

Features:

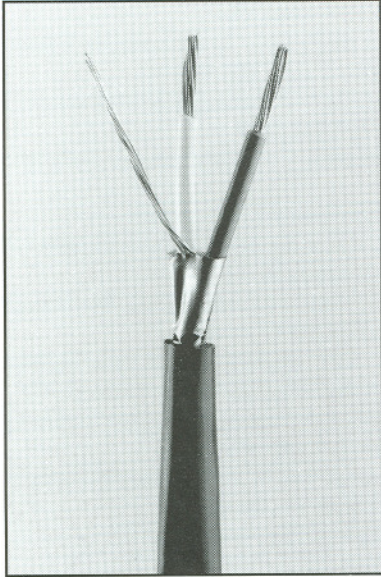
- UL Listed under Subject 13
- Passes IEEE 383 70,000 BTU 1 hour flame test (Non-propagating)
- Excellent moisture, chemical & abrasion resistance

Individual & Overall Shielded Cable

Order Code	Number of Pairs	Nominal Outer Jacket Thickness	Nominal O.D. (Inches)	Minimum Bending Radius (Inches)	Maximum Pulling Tension (lbs.)	Net Wt (lbs./1000 ft)
(*)-2-20-UPAAP	2	.040	.365	2.90	50	64
(*)-4-20-UPAAP	4	.052	.450	3.40	95	105
(*)-6-20-UPAAP	6	.052	.525	4.20	140	140
(*)-8-20-UPAAP	8	.052	.570	4.45	180	170
(*)-10-20-UPAAP	10	.062	.685	5.45	225	222
(*)-12-20-UPAAP	12	.062	.690	5.45	260	250
(*)-16-20-UPAAP	16	.062	.765	5.90	340	310
(*)-20-20-UPAAP	20	.062	.845	6.70	430	375
(*)-24-20-UPAAP	24	.072	.930	7.50	520	455
(*)-36-20-UPAAP	36	.072	1.040	8.20	780	625
(*)-50-20-UPAAP	50	.072	1.200	9.45	1090	835

(*) Specify KX, JX, EX, TX, or RSX Calibration

Single-Pair & Triad Electronic Instrument Wire



UL PLTC 300 VOLT

PVC Insulation & Jacket
Overall Shield

Cable Specifications:

Conductors: 7-strand Copper Wire

Single Insulation: 15 mils 105°C PVC

Construction: Twisted pair/Triad

Twist: Lay is approximately 2.5 inches

Color Code: Black and White (Triad: Black, White, Red)

Overall Shield: .002" aluminized polyester backed tape overlapped to provide 100% coverage when flexed

Overall Drain Wire: Stranded uninsulated tinned copper in continuous contact with shield

Jacket Insulation: 90°C Flame retardant PVC

Features:

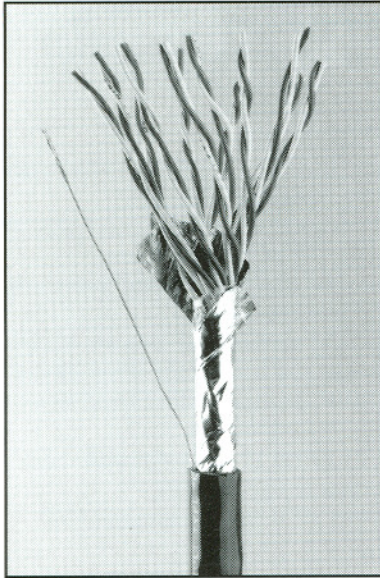
- UL Listed under Subject 13
- Passes IEEE 383 70,000 BTU 1 hour flame test
- Non-propagating
- Excellent moisture, chemical & abrasion resistance

Shielded Electronic Instrument Wire

Order Code	Conductor Size AWG	Number of Conductors	Nominal Outer Jacket Thickness	Nominal O.D. (Inches)	Minimum Bending Radius (Inches)	Maximum Pulling Tension (lbs.)	Net Wt (lbs./1000 ft)
Cu-20S-PAP	20	2	.020*	.180	1	21	18
Cu-18S-PAP	18	2	.020*	.200	1 1/4	34	25
Cu-16S-PAP	16	2	.020*	.230	1 1/2	54	34
Cu-20S-UPAP	20	2	.035	.210	1 1/4	21	24
Cu-18S-UPAP	18	2	.035	.230	1 1/2	34	30
Cu-16S-UPAP	16	2	.035	.270	1 3/4	54	42
Cu-3c-20S-PAP	20	3	.020*	.190	1 1/4	29	23
Cu-3c-18S-PAP	18	3	.020*	.215	1 1/2	47	32
Cu-3c-16S-PAP	16	3	.020*	.245	1 5/8	75	45
Cu-3c-20S-UPAP	20	3	.035	.235	1 1/2	29	32
Cu-3c-18S-UPAP	18	3	.035	.245	1 5/8	47	39
Cu-3c-16S-UPAP	16	3	.035	.280	1 7/8	75	53

*Note: Products with 20 mil jacket are not U.L. Listed

Multiple-Pair Electronic Instrument Wire



UL PLTC 300 VOLT

PVC Insulation & Jacket
Overall Shield

Cable Specifications:

Conductors: 7-strand 20 AWG Copper Wire

Single Insulation: 15 mils 105°C PVC

Color Code: Black and White

Construction: Twisted pairs

Identification of pair: One conductor of each pair is numbered

Twist: Lay is approximately 2.5 inches

Overall Shield: .002" aluminized polyester backed tape overlapped to provide 100% coverage when flexed

Overall Drain Wire: Stranded uninsulated tinned copper in continuous contact with shield

Communications Wire: 22AWG stranded copper wire insulated and color coded orange

Jacket Insulation: 90°C Flame retardant PVC

Features:

- UL Listed under Subject 13
- Passes IEEE 383 70,000 BTU 1 hour flame test
- Non-propagating
- Excellent moisture, chemical & abrasion resistance

Shielded Electrical Instrument Wire

Order Code	Number of Pairs	Nominal Outer Jacket Thickness	Nominal O.D. (Inches)	Minimum Bending Radius (Inches)	Maximum Pulling Tension (lbs.)	Net Wt (lbs./1000 ft)
Cu-2-20S-UPAP	2	.050"	.250	2 5/8	50	60
Cu-4-20S-UPAP	4	.050"	.405	2 3/4	79	86
Cu-6-20S-UPAP	6	.050"	.450	3	145	110
Cu-8-20S-UPAP	8	.050"	.495	3 1/4	185	134
Cu-10-20S-UPAP	10	.050"	.554	3 3/4	230	160
Cu-12-20S-UPAP	12	.050"	.574	3 7/8	271	183
Cu-16-20S-UPAP	16	.060"	.660	4 1/2	360	246
Cu-20-20S-UPAP	20	.060"	.716	4 3/4	450	293
Cu-24-20S-UPAP	24	.060"	.772	5 1/8	540	339
Cu-36-20S-UPAP	36	.070"	.904	6	800	489
Cu-50-20S-UPAP	50	.070"	1.049	6 7/8	1120	645

Multiple-Pair Electronic Instrument Wire



UL PLTC 300 VOLT

PVC Insulation & Jacket
Individual & Overall Shield

Cable Specifications:

Conductors: 7-strand 20 AWG Copper Wire

Single Insulation: 15 mils 105°C PVC

Color Code: Black and White

Construction: Twisted pairs

Identification of pair: One conductor of each pair is numbered

Twist: Lay is approximately 2.5 inches

Pair Shield: Aluminized polyester backed tape overlapped to provide coverage when flexed

Pair Drain Wire: Stranded uninsulated tinned copper in continuous contact with shield

Overall Shield: 002" aluminized polyester backed tape overlapped to provide 100% coverage when flexed

Overall Drain Wire: Stranded uninsulated tinned copper in continuous contact with shield

Communications Wire: 22AWG stranded copper wire insulated and color coded orange

Jacket Insulation: 90°C Flame retardant PVC

Features:

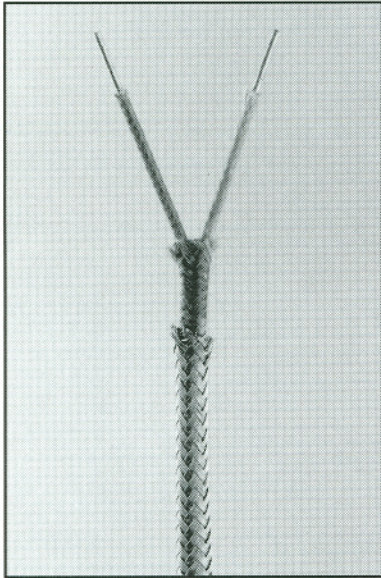
- UL Listed under Subject 13
- Passes IEEE 383 70,000 BTU 1 hour flame test
- Non-propagating
- Excellent moisture, chemical & abrasion resistance

Shielded Electrical Instrument Wire

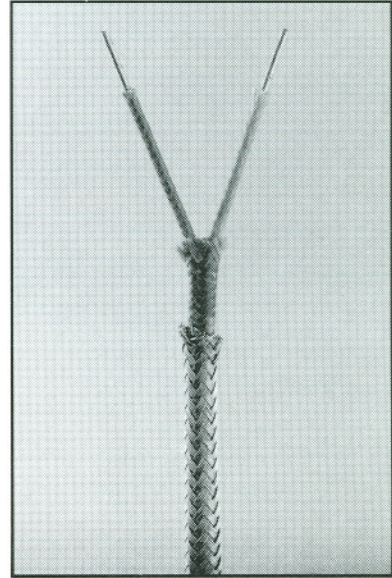
Order Code	Number of Pairs	Nominal Outer Jacket Thickness	Nominal O.D. (Inches)	Minimum Bending Radius (Inches)	Maximum Pulling Tension (lbs.)	Net Wt (lbs./1000 ft)
Cu-2-20S-UPAAP	2	.050"	.352	2 1/4	60	69
Cu-4-20S-UPAAP	4	.050"	.435	3	115	102
Cu-6-20S-UPAAP	6	.050"	.489	3 1/4	170	132
Cu-8-20S-UPAAP	8	.050"	.543	3 5/8	220	162
Cu-10-20S-UPAAP	10	.050"	.650	4 3/8	280	215
Cu-12-20S-UPAAP	12	.050"	.670	4 1/2	335	243
Cu-16-20S-UPAAP	16	.060"	.739	5	440	302
Cu-20-20S-UPAAP	20	.060"	.819	5 1/2	550	372
Cu-24-20S-UPAAP	24	.060"	.900	6 1/8	600	443
Cu-36-20S-UPAAP	36	.070"	1.050	7	980	611
Cu-50-20S-UPAAP	50	.070"	1.225	8	1370	805

Thermocouple Wire & Cable

Metal Overbraid Coverings



S Cu 1600
Braided Metal Coverings



X Wrapped Spiral Armor

Ordering Code Suffix: -S

Braided material: 304 Stainless-Steel round wire braid
Continuous Service Temperature: 1600°F (900°C)
85% Minimum Coverage
General Purpose Stainless Steel, subject to carbide precipitation between 900°F and 1600°F
Applied to wire sizes from 14 AWG to 30 AWG

Ordering Code Suffix: -Cu

Braided material: Tinned copper round wire braid
85% Minimum Coverage
Shields against external electrostatic interference
Applied to wire sizes from 14 AWG to 30 AWG

Ordering Code Suffix: -1600

Braided material: Inconel 600 round wire braid
Continuous Service Temperature: 2100°F (1500°C)
Excellent for severely corrosive applications and has high resistance to oxidizing and reducing atmospheres
Applied to wire sizes from 14 AWG to 30 AWG

Ordering Code Suffix: -S

Armor material: Half-oval Galvanized Iron
90% Minimum Coverage
Better resistance to crushing and cutting than braided products
Applied to wire sizes from 14 AWG to 30 AWG

Ordering Code Example

Part number J-20-GG selected from Insulated Thermocouple Wire Section

Mfg with Stainless Steel
Overbraid should be ordered
as:

J-20-GGS