

XLPE, XLPE/MICA, Silicone Rubber and Kapton® Insulated Thermocouple Cables - Single and Multipairs



# **XLPE Insulated Single Pair Thermocouple Cable**

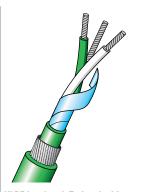
### XLPE Insulated Twisted with Screen (Low Smoke and Fume) -30°C to +70°C

- Incorporates XLPE (Cross Linked Polyethylene) compound on the cores and Low Smoke and Fume (LSF) material on the bedding and/or outer sheath
- These cables meet the requirements of BS4066 Part 3/IEC 60332.3 Category A covering tests on cables in fire conditions
- Ideal for situations where there is a risk of fire and the emission of smoke and gases could threaten life and property
- The acidic gas evolved during combustion is less than 0.5% in accordance with BS6425 Pt 1 1990 and IEC 60754.1: 1996



XLPE insulated, Twisted with Screen (LSF)

One pair of **stranded** conductors. Cores XLPE insulated. Pair twisted, screened with Mylar® aluminium tape and drain wire. LSF sheathed overall.

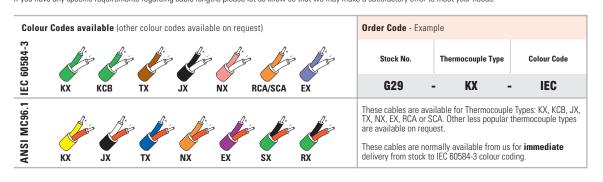


XLPE insulated, Twisted with Screen and Armour (LSF)

One pair of **stranded** conductors. Cores XLPE insulated. Pair twisted, screened with Mylar® aluminium tape and drain wire. LSF bedded. Steel wire armoured

		Stock Number	G29	G31	G94	G95	
S	Conductor Style		Stra	nded	Stra	nded	
CONDUCTORS	No. of Strands / S	trand Diameter (mm)	16/0.2	23/0.2	16/0.2	23/0.2	
000	Total Area (mm²)		0.5	0.75	0.5	0.75	
ON C	Total AWG (S = S	tranded)	20S	18S	20S	18S	
5	Insulation		XL	PE	XL	PE	
S	Number of Pairs			1		1	
PAIRS	Laid Flat or Twist	ed	Twi	sted	Twi	sted	
Д	Screen*		Ye	es	Yes		
	Insulation		LSF		LSF		
	Insulation	Continuous	-30 to	o +70	-30 to +70		
	Rating (°C)	Short Term	+90		+90		
_	Colour Coding		Ye	es	Yes		
OVERALL		Abrasion Resistance	Go	od	Good		
VE	Physical Properties	Moisture Resistance	Very Good		Very Good		
0		Typical Weight (Kg/100m) (excluding reel)	4	5	19	22	
	Diameter under A	rmour (mm)	-	_	5.5	6.0	
	Diameter over Armour (mm)		_	_	7.5	8.0	
	Overall Diameter	† (mm)	6.0	6.5	10.5	11.0	
		Notes	Excellent for fire rish halogens. Round set electromagnetic and interference.	ction. Rejects I electrostatic	Excellent for fire rist halogens. Round see electromagnetic and interference. Armou strength.	ction. Rejects d electrostatic	

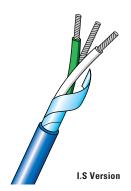
Aluminised Mylar® tape in contact throughout by a bare 7/0.3mm diameter tinned copper drainwire.
 These values are nominal and if critical to your application, please request a physical check.



## **XLPE Insulated Single Pair Thermocouple Cable**

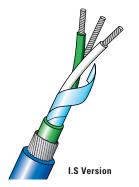
### Intrinsically Safe XLPE Insulated Twisted with Screen (Low Smoke and Fume) -30°C to +70°C

- Incorporates XLPE (Cross Linked Polyethylene) compound on the cores and Low Smoke and Fume (LSF) material on the bedding and/or outer sheath
- These cables meet the requirements of BS4066 Part 3/IEC 60332.3 Category A covering tests on cables in fire conditions
- Ideal for situations where there is a risk of fire and the emission of smoke and gases could threaten life and property
- The acidic gas evolved during combustion is less than 0.5% in accordance with BS6425 Pt 1 1990 and IEC 60754.1: 1996



#### XLPE insulated, Twisted with Screen (LSF)

One pair of **stranded** conductors. Cores XLPE insulated. Pair twisted, screened with Mylar® aluminium tape and drain wire. LSF sheathed overall.



XLPE insulated, Twisted with Screen and Armour (LSF)

One pair of **stranded** conductors. Cores XLPE insulated. Pair twisted, screened with Mylar® aluminium tape and drain wire. LSF bedded. Steel wire armoured and LSF sheathed.

		Stock Number	GS29	GS31	GS94	GS95	
S	Conductor Style		Stra	nded	Stra	nded	
CONDUCTORS	No. of Strands / S	trand Diameter (mm)	16/0.2	23/0.2	16/0.2	23/0.2	
000	Total Area (mm²)		0.5	0.75	0.5	0.75	
OND	Total AWG (S = S	tranded)	20S	18S	20S	18S	
2	Insulation		XL	PE	XL	PE	
S	Number of Pairs			1		1	
PAIRS	Laid Flat or Twist	ted	Twi	sted	Twi	sted	
Ъ	Screen*		Ye	es	Yes		
	Insulation		LS	SF	LSF		
	Insulation	tion Continuous		o +70	-30 to +70		
	Rating (°C)	Short Term	+5	90	+90		
_	Colour Coding		Ye	es	Yes		
OVERALL		Abrasion Resistance	Go	od	Good		
VEF	Physical Properties	Moisture Resistance	Very Good		Very Good		
0		Typical Weight (Kg/100m) (excluding reel)	4	4	19	22	
	Diameter under A	Armour (mm)	_	_	5.5	6.0	
	Diameter over Armour (mm)		-	_	7.5	8.0	
	Overall Diameter	† (mm)	6.0	6.5	10.5	11.0	
		Notes	Excellent for fire rish halogens. Round see electromagnetic and interference.	ction. Rejects I electrostatic	Excellent for fire risl halogens. Round see electromagnetic and interference. Armou strength.	ction. Rejects I electrostatic	

Aluminised Mylar® tape in contact throughout by a bare 7/0.3mm diameter tinned copper drainwire.
 These values are nominal and if critical to your application, please request a physical check.

The cable constructions can also be manufactured to any other colour coding requirement that you may have, but might be subject to a minimum ordering quantity. If you have any specific requirements regarding cable lengths please let us know so that we may make a satisfactory offer to meet your needs.

Colour Codes available (other colour codes available on request)

Stock No.

Thermocouple Type

Colour Code

Stock No.

Thermocouple Type

Colour Code

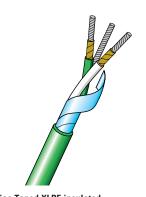
These cables are available for Thermocouple Types: KX, KCB, JX, TX, NX, EX, RCA or SCA. Other less popular thermocouple types are available on request.

These cables are normally available from us for immediate delivery from stock to IEC 60584-3 colour coding.

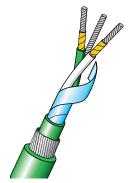
## MICA/XLPE Insulated Single Pair Thermocouple Cable

#### Fire Resistant MICA/XLPE Low Smoke and Fume -30°C to +70°C

- Resistant to a temperature of 750°C for at least three hours in accordance with the flame test requirements of IEC 60331
- Essential for situations where it is of strategic importance to ensure that the cable continues to function during a major crisis involving fire
- The cable incorporates a high temperature rated Mica glass tape with a XLPE (Cross Linked Polyethylene) insulation on the cores and Low Smoke and Fume material on the bedding and/or outer sheath
- Sheathing materials are Halogen free



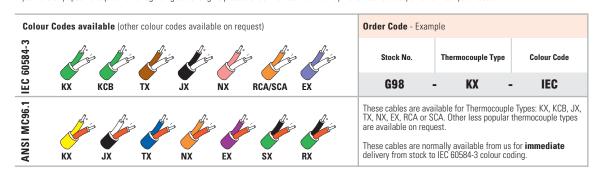
Mica Taped XLPE insulated, Twisted with Screen (LSF) One pair of stranded conductors Mica taped and XLPE insulated. Pair twisted. Screened with Mylar aluminium tape and drainwire. LSF sheathed.



Mica Taped XLPE insulated, Twisted with Screen & Armour (LSF) One pair of stranded conductors Mica taped and XLPE insulated. Pair twisted. screened with Mylar<sup>®</sup> aluminium tape and drain wire. LSF bedded. Steel wire armoured and LSF sheathed.

		Stock Number	G98	G97	G99	G96	
S	Conductor Sty	le	Strai	nded	Stranded		
OR	No. of Strands	s / Strand Diameter (mm)	16/0.2	23/0.2	16/0.2	23/0.2	
l D	Total Area (m	m <sup>2</sup> )	0.5	0.75	0.5	0.75	
CONDUCTORS	Total AWG (S	= Stranded)	20S	18S	20S	18S	
CC	Insulation		MICA a	nd XLPE	MICA a	nd XLPE	
S	Number of Pa	irs	1	1		1	
PAIRS	Laid Flat or Tv	visted	Twi	sted	Twi	sted	
٩	Screen*		Ye	es	Yes		
	Insulation		LS	SF	LSF		
	Insulation	Continuous	-30 to	0 +70	-30 to +70		
	Rating (°C)	Short Term	+5	90	+	90	
_	Colour Coding	I	Ye	es	Yes		
OVERALL		Abrasion Resistance	Go	od	Good		
VE	Physical Properties	Moisture Resistance	Very	Good	Very Good		
0		Typical Weight (Kg/100m) (excluding reel)	5	6.7	23	16.6	
	Diameter under Armour (mm)		_	_	7.0	8.6	
	Diameter ove	r Armour (mm)	_	_	9.0	10.4	
	Overall Diameter <sup>†</sup> (mm)		7.0	8.4	12.0	13.6	
		Notes	Excellent for signal contir Free of halogens. Round s electromagnetic and elec	section. Rejects	Excellent for signal contil Free of halogens. Round a electromagnetic and elec Armoured for mechanical	trostatic interference.	

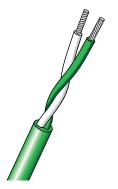
Aluminised Mylar® tape in contact throughout by a bare 7/0.3mm diameter tinned copper drainwire.
 These values are nominal and if critical to your application, please request a physical check.



## Silicone Rubber Insulated Thermocouple Cable

### Flame Retardant Silicone Rubber Insulated Single Pairs -40°C to +200°C

- Excellent properties for the reduced propagation of flame by incorporation of flame retardant Silicone Rubber compounds
- Suitable for situations where there is a risk of fire. (See also our range of XLPE/LSF cables shown on page 4)
- Ideal for applications where, for short periods of time, the temperature can fluctuate, which would cause other cables to become inflexible and brittle. These cables also meet the requirements of BS4066 Pt1 / IEC 60332.1 covering tests on cables under fire conditions



Flame Retardant Silicone Rubber insulated, Twisted Pair

One pair of **stranded** conductors. Cores PFA insulated. Silicone Rubber sheathed.

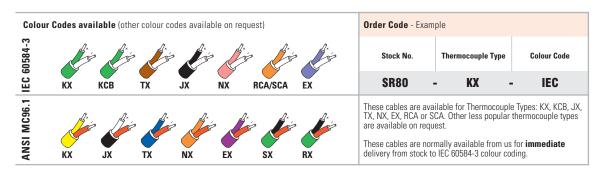


Flame Retardant Silicone Rubber insulated, Twisted Pair with Mylar® Tape

One pair of **stranded** conductors. Cores Silicone Rubber insulated. Pair twisted and Mylar® taped. Silicone Rubber about all the strands of t

		Stock Number	SR30	SR31	SR73	SR77	SR80
	Conductor Style			anded	01170	Stranded	
CONDUCTORS							
בָּ		Strand Diameter (mm)	7/0.2	7/0.2	7/0.3	16/0.3	16/0.2
$\leq$	Total Area (mm²	2)	0.22	0.22	0.49	1.34	0.5
Z	Total AWG (S =	Stranded)	24S	24S	21S	16S	20S
3	Insulation		PFA	FR Silicone Rubber	Flame R	etardant Silicone	Rubber
n	Number of Pairs	3		1		1	
FAIRS	Laid Flat or Twi	sted	Tv	visted		Twisted	
<u>.                                    </u>	Screen			No	No		
	Insulation		Flame Retarda	nt Silicone Rubber	Flame Retardant Silicone Rubber		
	Insulation	Continuous	-40	to +200		-40 to +200	
	Rating (°C)	Short Term	-50	to +250	-50 to +250		
_	Colour Coding			Yes	Yes		
M		Abrasion Resistance	(	Good	Good		
UVEKALL	Physical Properties	Moisture Resistance	Very Good			Very Good	
>	Troportion	Typical Weight (Kg/100m)	1	4	4	8	4.5
	Diameter under	Diameter under Armour (mm)		_			
	Diameter over A	Armour (mm)		_			
	Overall Diameter† (mm)		3.0	4.5	7.0	8.5	6
Notes			Flame retardant. Round section. Rejects electromagnetic interference.		Flame retardant. Ro interference.	und section. Rejects e	lectromagnetic

<sup>†</sup> These values are nominal and if critical to your application, please request a physical check.



# Silicone Rubber Insulated Thermocouple Cable

### Flame Retardant Silicone Rubber Insulated Single Pairs -40°C to +200°C

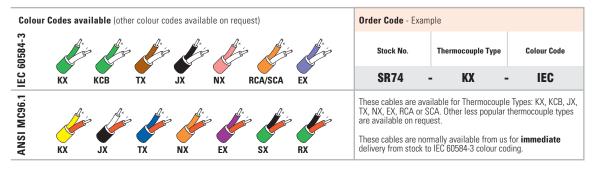
- Excellent properties for the reduced propagation of flame by incorporation of flame retardant Silicone Rubber compounds
- Suitable for situations where there is a risk of fire. (See also our range of XLPE/LSF cables shown on page 4)
- Ideal for applications where, for short periods of time, the temperature can fluctuate, which would cause other cables to become inflexible and brittle. These cables also meet the requirements of BS4066 Pt1 / IEC 60332.1 covering tests on cables under fire conditions



Flame Retardant Silicone Rubber, Twisted Pair with Nickel Plated Copper Braid
One pair of stranded conductors. Cores Silicone Rubber insulated. Pair twisted and Mylar® taped
with nickel plated copper braid. Silicone Rubber sheathed.

		Stock Number	SR35	SR74	SR76	SR78	SR79		
S	Conductor Style		Stranded						
CONDUCTORS	No. of Strands / S	Strand Diameter (mm)	7/0.2	7/0.3	16/0.2	19/0.3	48/0.2		
000	Total Area (mm²)		0.22	0.49	0.5	1.34	1.5		
ONC	Total AWG (S = S	tranded)	24S	21S	20S	16S	15S		
ಎ	Insulation			Flame R	etardant Silicone	Rubber			
S	Number of Pairs				1				
PAIRS	Laid Flat or Twis	ted			Twisted				
Ъ	Screen*		Yes						
	Insulation		Flame Retardant Silicone Rubber						
	Insulation	Continuous	-40 to +200						
	Rating (°C) Short Term		-50 to +250						
_	Colour Coding		Yes						
OVERALL		Abrasion Resistance	Good						
VE	Physical Properties	Moisture Resistance			Very Good				
0		Typical Weight (Kg/100m) (excluding reel)	3	6.3	10	10	11		
	Diameter under A	Armour (mm)			_				
	Diameter over Ar	mour (mm)			_				
	Overall Diameter	† (mm)	4.5	6.5	6.5	8	8		
		Notes	Flame retardant. Ro	und section. Rejects e	electromagnetic interfe	erence.			

<sup>\*</sup> Where cables incorporate a metal braid, the braid can be used as a screen.

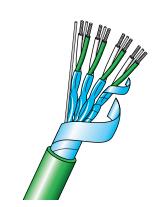


These values are nominal and if critical to your application, please request a physical check.

# Silicone Rubber Insulated Thermocouple Cable

### Non Armoured Flame Retardant Silicone Rubber Insulated Multipairs -40°C to +200°C

- Extremely useful where there is a need to run a number of thermocouple signals back to instrumentation
- 16/0.2mm (0.5mm²) diameter conductors with an individual and collective screen. Cores, bedding and overall sheath in flame retardant Silicone Rubber
- Ideal for applications where, for short periods of time, the temperature can fluctuate, which would cause other cables to become inflexible and brittle. These cables also meet the requirements of BS4066 Pt1 / IEC 60332.1 covering tests on cables under fire conditions

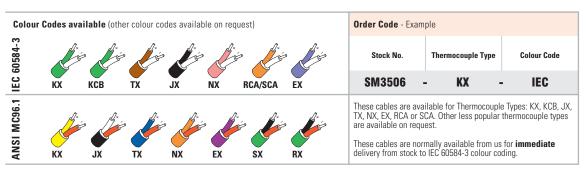


#### Non Armoured Flame Retardant Silicone Rubber Multipair

Multipairs of stranded 16/0.2mm diameter conductors FR Silicone Rubber insulated. Pairs numbered, twisted and individually screened with Mylar® aluminium tape with a drainwire. Pairs laid up, overall screened with Mylar® aluminium tape with a drainwire. Flame Retardant Silicone Rubber sheathed.

		Stock Number	SM3502	SM3504	SM3506			
2	Conductor Style			Stranded				
CONDUCIORS	No. of Strands / S	Strand Diameter (mm)	16/0.2	16/0.2	16/0.2			
2	Total Area (mm²	)	0.5	0.5	0.5			
	Total AWG (S = S	Stranded)	20S	20\$	20S			
5	Insulation		FI	ame Retardant Silicone Rubb	er			
,	Number of Pairs		2	4	6			
2	Laid Flat or Twis	sted		Twisted				
-	Screen*		Yes - Individually Screened Pairs					
	Insulation		Flame Retardant Silicone Rubber					
	Insulation	Continuous						
	Rating (°C)	Short Term	-50 to +250					
	Colour Coding		Yes					
	Screen*		Yes - Collective, Overall Screen					
		Abrasion Resistance		Good				
OVENALL	Physical Properties	Moisture Resistance	Very Good					
	·	Typical Weight (Kg/100m) (excluding reel)	9 13		20			
	Diameter under A	Armour (mm)	_					
	Diameter over A	rmour (mm)		_				
	Overall Diamete	r <sup>†</sup> (mm)	9.8	10.8	13			

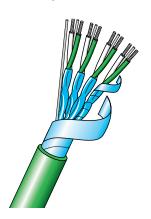
Aluminised Mylar® tape in contact throughout by a bare 7/0.3mm diameter tinned copper drainwire. These values are nominal and if critical to your application, please request a physical check.



## **XLPE Insulated Multipair Thermocouple Cable**

### 16/0.2mm Non Armoured Flame Retardant XLPE Insulated Multipairs -30°C to +70°C

- These cables meet the requirements of BS4066 Part 3/IEC 60332.3 Category A covering tests on cables under fire conditions and are ideal for situations where there is a risk of fire and the emission of smoke and gases could threaten life and property
- The sheathing materials used are Halogen
- The acidic gas which is evolved during combustion is less than 0.5% in accordance with BS6425 Pt 1 and IEC 60754 Pt 1
- The Oxygen Index Value is not less than 30 in accordance with BS2782:2007 Part 1 Method

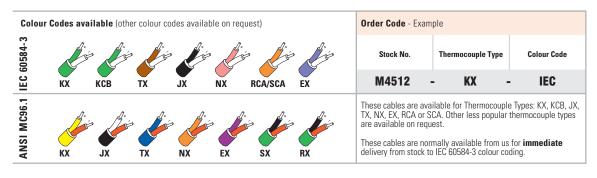


#### Non Armoured XLPE Multipair

Multipairs of stranded 16/0.2mm dia conductors XLPE insulated. Pairs numbered, twisted and individually screened with Mylar® aluminium tape with a drainwire. Pairs laid up, overall screened with Mylar® aluminium tape with a drainwire. LSF sheathed.

		Stock Number	M4502	M4504	M4506	M4508	M4512	M4516	M4520	M4524	M4536
S	Conductor Style	nductor Style Stranded									
CONDUCTORS	No. of Strands /	Strand Diameter (mm)	16/0.2	16/0.2	16/0.2	16/0.2	16/0.2	16/0.2	16/0.2	16/0.2	16/0.2
.30	Total Area (mm²	·)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
ONC	Total AWG (S =	Stranded)	20S	20S	20S	20S	20S	20S	20S	20S	20S
2	Insulation						XLPE				
S	Number of Pairs	:	2	4	6	8	12	16	20	24	36
PAIRS	Laid Flat or Twis	sted					Twisted				
٦	Screen*					Yes - Indiv	idually Scre	ened Pairs			
	Insulation		LSF								
	Insulation Continuous		-30 to +70								
	Rating (°C)	Short Term	+90								
	Colour Coding						Yes				
=	Screen*					Yes - Colle	ective, Over	all Screen			
OVERALL		Abrasion Resistance	Good								
0	Physical Properties	Moisture Resistance					Very Good				
		Typical Weight (Kg/100m) (excluding reel)	11	17	23	31	45	60	74	89	120
	Diameter under	Armour (mm)					_				
	Diameter over A	rmour (mm)					_				
	Overall Diamete	r <sup>†</sup> (mm)	10.5	12.5	15.2	16.1	20.4	22.8	24.9	28.4	33.2
		F 11			1 11 11 11	1 0 0					

Notes | Excellent for fire risk areas. Free of halogens. Individually and collectively screened

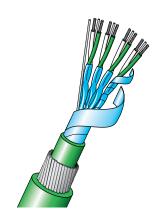


Aluminised Mylar® tape in contact throughout by a bare 7/0.3mm diameter tinned copper drainwire. These values are nominal and if critical to your application, please request a physical check.

# **XLPE Insulated Multipair Thermocouple Cable**

### 16/0.2mm Armoured Flame Retardant XLPE Insulated Multipairs -30°C to +70°C

- These cables meet the requirements of BS4066 Part 3/IEC 60332.3 Category A covering tests on cables under fire conditions and are ideal for situations where there is a risk of fire and the emission of smoke and gases could threaten life and property
- The sheathing materials used are Halogen
- The acidic gas which is evolved during combustion is less than 0.5% in accordance with BS6425 Pt 1 and IEC 60754 Pt 1
- The Oxygen Index Value is not less than 30 in accordance with BS2782:2007 Part 1 Method 141



#### Armoured XLPE Multipair

Multipairs of stranded 16/0.2mm dia conductors XLPE insulated.

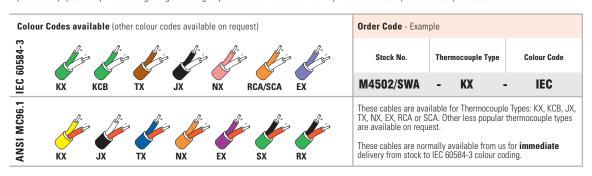
Pairs numbered, twisted and individually screened with Mylar® aluminium tape with a drainwire.

Pairs laid up, overall screened with Mylar® aluminium tape with a drainwire.

XLPE bedded. Steel wire armoured and LSF sheathed.

		Stock Number	M4502/ SWA	M4504/ SWA	M4506/ SWA	M4508/ SWA	M4512/ SWA	M4516/ SWA	M4520/ SWA	M4524/ SWA	M4536/ SWA
S	Conductor Style						Stranded				
CONDUCTORS	No. of Strands /	Strand Diameter (mm)	16/0.2	16/0.2	16/0.2	16/0.2	16/0.2	16/0.2	16/0.2	16/0.2	16/0.2
.30	Total Area (mm²	:)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
N C	Total AWG (S =	Stranded)	20S	20S	20S	20S	20S	20S	20S	20S	20S
2	Insulation						XLPE				
S	Number of Pairs		2	4	6	8	12	16	20	24	36
PAIRS	Laid Flat or Twis	sted					Twisted				
۵	Screen*					Yes - Indiv	idually Scre	ened Pairs			
	Insulation	Insulation		LSF							
	Insulation Continuous		-30 to +70								
	Rating (°C)	Short Term	+90								
	Colour Coding		Yes								
=	Screen*		Yes - Collective, Overall Screen								
OVERALL		Abrasion Resistance	Good								
0	Physical Properties	Moisture Resistance					Very Good				
		Typical Weight (Kg/100m) (excluding reel)	35	55	68	84	112	145	168	207	265
	Diameter under	Armour (mm)	10.5	12.5	15.2	16.1	20.4	22.8	24.9	28.4	33.2
	Diameter over A	rmour (mm)	11.9	15.0	17.7	19.3	23.6	26.0	28.1	32.4	37.2
	Overall Diamete	r <sup>†</sup> (mm)	14.7	18.0	20.9	22.5	27.2	29.6	31.9	36.4	41.4
	•		F 11		F (1.1	1 10 0 1	1 11 2		1.6		

**Notes** Excellent for fire risk areas. Free of halogens. Individually and collectively screened. Armoured for mechanical strength.



Aluminised Mylar® tape in contact throughout by a bare 7/0.3mm diameter tinned copper drainwire.
 These values are nominal and if critical to your application, please request a physical check.

# **Kapton® Insulated Single Pair Thermocouple Cable**

### Kapton® Insulated Laid Flat and Twisted Pair Cables -75°C to +285°C

- Suitable for temperatures ranging from -75°C to +285°C
- Flame retardant with resistance to chemicals and radiation
- Excellent physical, electrical and mechanical properties over high temperatures
- Has high dielectric strength and excellent abrasion resistance



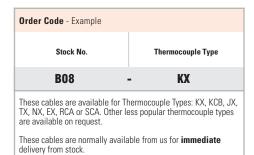
Kapton® Laid Flat Pair One pair of solid conductors. Negative leg Kapton insulated. Pair laid flat and Kapton sheathed.

Kapton® Twisted Pair One pair of solid or stranded Kapton insulated. Pair twisted.

B09	B02				
Solid	Stranded				
1/0.5	7/0.2				
0.2	0.22				
24	24S				
Kap	ton®				
1	l				
Twi	sted				
N	0				
_	_				
-75 to	+285				
+4	00				
N	0				
Very	Good				
Fa	nir				
<1.0	<1.0				
_	_				
_	_				
1.4	1.6				
Rejects electromagnetic interference.					

		Stock Number	B08		
S	Conductor Style	Solid			
CONDUCTORS	No. of Strands /	Strand Diameter (mm)	1/0.25		
.00	Total Area (mm	2)	0.05		
ONC	Total AWG (S =	Stranded)	30		
2	Insulation		Kapton®		
S	Number of Pairs	S	1		
PAIRS	Laid Flat or Twi	sted	Laid Flat		
Д	Screen		No		
	Insulation		Kapton®		
	Insulation	Continuous	-75 to +285		
	Rating (°C)	Short Term	+400		
_	Colour Coding		No		
OVERALI		Abrasion Resistance	Very Good		
VE	Physical Properties	Moisture Resistance	Fair		
0	•	Typical Weight (Kg/100m) (excluding reel)	<1.0		
	Diameter under	Armour (mm)	_		
	Diameter over A	Armour (mm)	_		
	Overall Diamete	er <sup>†</sup> (mm)	<1.0		
		Notes	Egg shaped construction		

<sup>†</sup> These values are nominal and if critical to your application, please request a physical check.



## **Notes**



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