

## Compensation cables - extension cables

Extension cables permit to extend thermocouple circuit. They appear as electric cable whose wires are realized in same materials as those of the thermocouple.

Compensation cables are carried out in other materials whose thermoelectric characteristics are equal up to 100°C.

Compensation cables are defined by the CEI 584-3 NORM which determine among other things colors code of cables as well as polarity.



Practical information :	Couple type	Sheath color
	K	green
	J	black
	T	brown
	S and R	orange

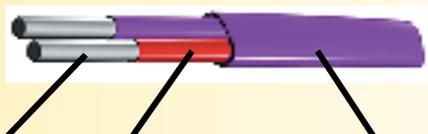
The positive wire has always the color of the sheath  
The negative wire is always WHITE.

Warning, any inversion of a compensation cable causes parasitizes thermoelectric junctions affecting the accuracy and the stability of measurement (fluctuations related to the medium temperature variation)



HELD IN TEMPERATURE OF PRINCIPAL INSULATOR USES IN EXTENSION CABLE OR COMPENSATION		
Material	Min. temp.	Max. temp.
PVC (HT)	-50°C	+ 80°C (105°C)
Polyethylene	-60°C	+ 70°C
Polypropelene	-40°C	+ 105°C
Nylon	-70°C	+ 120°C
Polyurethane	-40°C	+ 80°C
Teflon FEP	-80°C	+ 205°C
Teflon PTFE	-80°C	+ 260°C
Teflon PFA	-80°C	+ 260°C
Tefzel	-80°C	+ 155°C
Halar	-60°C	+ 160°C
Rubber Silicone	-55°C	+ 230°C
Kapton	-75°C	+ 260°C
Glass fiber	-70°C	+ 650°C
Ceramic fiber	0°C	+1430°C

### Cables coding:



Type	Thermocouple Norm		Number Conductor	Nature	Conductor insulation		Internal shielding	Sheath insulation		External shielding	Wire				
											Gauge (mm²) (Compensation & Link)	Diameter (mm) (Couple)			
Couple	U	CEI	C	2	Tc K	K Kapton	K	Shielded	B	Kapton	K	Shielded	B	0.14	0,3
Compensation	M			3	Tc J	J Glass silk	V			Glass silk	V			0.22	0,5
Link	L			4	Tc S	S PFA	Fa			PFA	Fa			0.50	etc...
				5	Tc T	T FEP	Fe			FEP	Fe			0.80	
				etc...	Tc B	B PTFE (teflon) Silicone	Tf S			PTFE (teflon) Silicone	Tf S			1.00 1.34	
					Copper	U PVC	P			PVC	P			etc...	