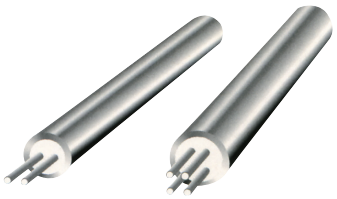
ZONZEN

Mineral Insulated Thermocouple Cable

Feature

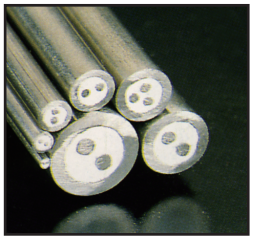
- Mineral insulated cables are the industry standard, provide choice for high temperature probe fabrication
- Bulk MI cable is rugged, inexpensive, reliable, widely accepted by industry, and readily available in standard configurations, the metal sheath provides a self-armoured cable, which is mechanically robust even at small diameters
- The small mass and high thermal conductivity of a properly made cable promotes rapid response of the finished thermocouple assembly
- Sheath materials can be selected to offer strong resistance against corrosive environments and extremely high temperature effects



Sheath Specification

Sheath Material	Nominal Chemical Composition (% Weight)										Continuous Max. Temp.	Melting Temp.
	Fe	Ni	Cr	C	Mo	Mn	S	Si	Cu	Tensile		
				Max		Max	Max	Max	0.1	(1000 psi)		
SUS304	Bal	10	19	0.03		2	0.03	1	0.1	80	900℃	1400℃
SUS316	Bal	12	17	0.03	2	2	0.03	1	0.1	85	925℃	1370℃
SUS316L	Bal	12	17	0.03	2	2	0.03	1	0.1	80	925℃	1370℃
SUS310	Bal	20	25	0.08		2	0.03	1.5	0.1	100	1100℃	1400℃

Sheath OD (mm)	Wall Thickness (mm)	Wire Dia. (mm)	Length (m/roll)	Sheath Material	Tolerance		
					Calibration	Limits	Temp. Range ℃
1.6	0.16-0.26	0.26-0.36	200	SUS304 SUS316 SUS316L SUS310L INC600	K	1.5℃ or 0.4%t	-40~1000
2.0	0.25-0.35	0.40-0.50	180				
3.0	0.38-0.48	0.50-0.60	80		J		-40~750
3.2	0.48-0.58	0.58-0.68	75				
4.0	0.52-0.62	0.60-0.70	70		E		-40~800
4.8	0.73-0.83	0.75-0.85	40				
6.0	0.98-1.08	0.90-1.10	30		T	0.5℃ or 0.4%t	-40~350



Mineral Insulated Thermocouple Cable

Order Code

Calibration (Order Code)				Sheath OD (mm)	Sheath Material
Type K	Type J	Type E	Type T		
MIC-K-φ1.6-304	MIC-J-φ1.6-304	MIC-E-φ1.6-304	MIC-T-φ1.6-304	1.6	304
MIC-K-φ1.6-316	MIC-J-φ1.6-316	MIC-E-φ1.6-316	MIC-T-φ1.6-316	1.6	316
MIC-K-φ1.6-316L	MIC-J-φ1.6-316L	MIC-E-φ1.6-316L	MIC-T-φ1.6-316L	1.6	316L
MIC-K-φ1.6-310S	-	-	-	1.6	310S
MIC-K-φ2-304	MIC-J-φ2-304	MIC-E-φ2-304	MIC-T-φ2-304	2	304
MIC-K-φ2-316	MIC-J-φ2-316	MIC-E-φ2-316	MIC-T-φ2-316	2	316
MIC-K-φ2-316L	MIC-J-φ2-316L	MIC-E-φ2-316L	MIC-T-φ2-316L	2	316L
MIC-K-φ2-310S	-	-	-	2	310S
MIC-K-φ3-304	MIC-J-φ3-304	MIC-E-φ3-304	MIC-T-φ3-304	3	304
MIC-K-φ3-316	MIC-J-φ3-316	MIC-E-φ3-316	MIC-T-φ3-316	3	316
MIC-K-φ3-316L	MIC-J-φ3-316L	MIC-E-φ3-316L	MIC-T-φ3-316L	3	316L
MIC-K-φ3-310S	-	-	-	3	310S
MIC-K-φ3.2-304	MIC-J-φ3.2-304	MIC-E-φ3.2-304	MIC-T-φ3.2-304	3.2	304
MIC-K-φ3.2-316	MIC-J-φ3.2-316	MIC-E-φ3.2-316	MIC-T-φ3.2-316	3.2	316
MIC-K-φ3.2-316L	MIC-J-φ3.2-316L	MIC-E-φ3.2-316L	MIC-T-φ3.2-316L	3.2	316L
MIC-K-φ3.2-310S	-	-	-	3.2	310S
MIC-K-φ4.8-304	MIC-J-φ4.8-304	MIC-E-φ4.8-304	MIC-T-φ4.8-304	4.8	304
MIC-K-φ4.8-316	MIC-J-φ4.8-316	MIC-E-φ4.8-316	MIC-T-φ4.8-316	4.8	316
MIC-K-φ4.8-316L	MIC-J-φ4.8-316L	MIC-E-φ4.8-316L	MIC-T-φ4.8-316L	4.8	316L
MIC-K-φ4.8-310S	-	-	-	4.8	310S
MIC-K-φ6.0-304	MIC-J-φ6.0-304	MIC-E-φ6.0-304	MIC-T-φ6.0-304	6.0	304
MIC-K-φ6.0-316	MIC-J-φ6.0-316	MIC-E-φ6.0-316	MIC-T-φ6.0-316	6.0	316
MIC-K-φ6.0-316L	MIC-J-φ6.0-316L	MIC-E-φ6.0-316L	MIC-T-φ6.0-316L	6.0	316L
MIC-K-φ6.0-310S	-	-	-	6.0	310S
MIC-K-φ6.4-304	MIC-J-φ6.4-304	MIC-E-φ6.4-304	MIC-T-φ6.4-304	6.4	304
MIC-K-φ6.4-316	MIC-J-φ6.4-316	MIC-E-φ6.4-316	MIC-T-φ6.4-316	6.4	316
MIC-K-φ6.4-316L	MIC-J-φ6.4-316L	MIC-E-φ6.4-316L	MIC-T-φ6.4-316L	6.4	316L
MIC-K-φ6.4-310S	-	-	-	6.4	310S
MIC-K-φ8.0-304	MIC-J-φ8.0-304	MIC-E-φ8.0-304	MIC-T-φ8.0-304	8.0	304
MIC-K-φ8.0-316	MIC-J-φ8.0-316	MIC-E-φ8.0-316	MIC-T-φ8.0-316	8.0	316
MIC-K-φ8.0-316L	MIC-J-φ8.0-316L	MIC-E-φ8.0-316L	MIC-T-φ8.0-316L	8.0	316L
MIC-K-φ8.0-310S	-	-	-	8.0	310S

Order Example

- MIC-K-φ3.0-316, it means you order MI thermocouple cable is simplex, type K, sheath dia: 3.0mm, sheath material: SUS316
- If you order MI thermocouple cable is duplex, please change “MIC” to “MICD”, it means “MICD-K-φ3.0-316”
- If you order MI thermocouple cable is triplex, please change “MIC” to “MICT”, it means “MICT-K-φ3.0-316”

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Mineral Insulated RTD Cable

Feature

- Available in copper or nickel conductors
- 3, 4 or 6 cores
- Sheath material: SUS304, SUS316, SUS316L
- 99.4% high purity MgO insulation
- Wider spacing available
- Cable diameters currently available (in mm): 3.0, 3.2, 4.0, 4.8, 5.0, 6.0, 6.4, 8.0



Specification

Sheath OD (mm)	Wall Thickness (mm)	Ni Wire Dia. (mm)	Length (m/roll)	Sheath Material
3.0	0.38-0.48	0.38-0.42	80	SUS304 SUS316 SUS316L
3.2	0.48-0.58	0.39-0.43	75	
4.0	0.52-0.62	0.50-0.60	70	
4.8	0.73-0.83	0.58-0.68	40	
5.0	0.78-0.88	0.60-0.70	40	
6.0	0.98-1.08	0.70-0.80	30	
6.4	1.05-1.15	0.73-0.83	25	
8.0	1.30-1.44	0.80-1.10	20	

Order Code

Order Code	Wire Calibration	Conductors	Conductor Materials	Sheath OD (mm)	Sheath Material
MIR-NI-4W-φ3.0-304	RTD	4	Ni	3.0	304
MIR-NI-4W-φ3.0-316		4	Ni	3.0	316
MIR-NI-4W-φ3.0-316L		4	Ni	3.0	316L
MIR-NI-4W-φ3.2-304		4	Ni	3.2	304
MIR-NI-4W-φ3.2-316		4	Ni	3.2	316
MIR-NI-4W-φ3.2-316L		4	Ni	3.2	316L
MIR-NI-4W-φ4.0-304		4	Ni	4.0	304
MIR-NI-4W-φ4.0-316		4	Ni	4.0	316
MIR-NI-4W-φ4.0-316L		4	Ni	4.0	316L
MIR-NI-4W-φ4.8-304		4	Ni	4.8	304
MIR-NI-4W-φ4.8-316		4	Ni	4.8	316
MIR-NI-4W-φ4.8-316L		4	Ni	4.8	316L
MIR-NI-4W-φ5.0-304		4	Ni	5.0	304
MIR-NI-4W-φ5.0-316		4	Ni	5.0	316
MIR-NI-4W-φ5.0-316L		4	Ni	5.0	316L
MIR-NI-4W-φ6.0-304		4	Ni	6.0	304
MIR-NI-4W-φ6.0-316		4	Ni	6.0	316
MIR-NI-4W-φ6.0-316L		4	Ni	6.0	316L
MIR-NI-4W-φ6.4-304		4	Ni	6.4	304
MIR-NI-4W-φ6.4-316		4	Ni	6.4	316
MIR-NI-4W-φ6.4-316L		4	Ni	6.4	316L
MIR-NI-4W-φ8.0-304		4	Ni	8.0	304
MIR-NI-4W-φ8.0-316		4	Ni	8.0	316
MIR-NI-4W-φ8.0-316L		4	Ni	8.0	316L

Order Example

- If you order copper conductor, please change the order code to “MIR-CU-4W-φ6.0-316”
- If you order three conductors, please change the order code to “MIR-NI-3W-φ6.0-316”
- If you order six conductor, please change the order code to “MIR-NI-6W-φ6.0-316”