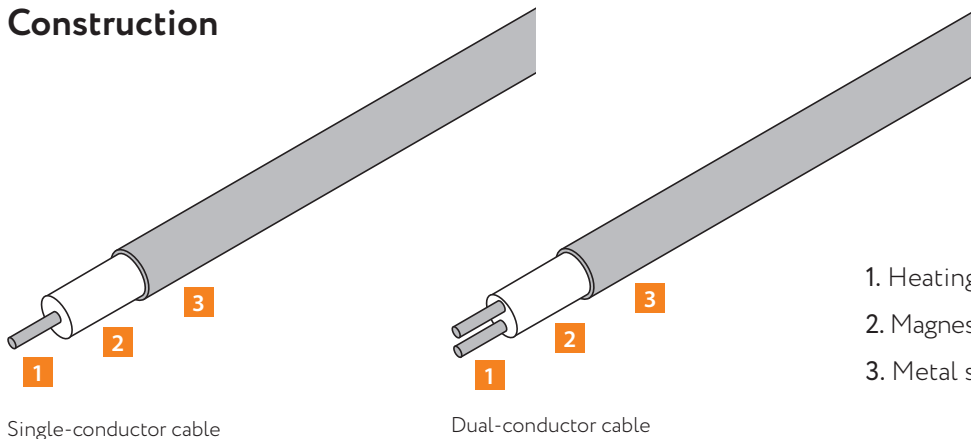


The MIAL range of alloy 825 sheathed Mineral Insulated (MI) heating cable has been developed to meet the specific need for a cable having a high temperature capability and electrical resistance values needed for long circuit lengths. To meet the requirement, TEC has combined an alloy 825 sheath with heating conductors

to enable an operating temperature of 800°C with resistance values from 2.1Ω/km down to 36100Ω/km. MI cables have excellent mechanical strength and are intrinsically quite resistant to corrosion. They are series resistance heaters, which must be designed to provide the required heat output.

## Construction



1. Heating Conductor
2. Magnesium Oxide Insulation
3. Metal sheath (Alloy 825)

Single-conductor cable

Dual-conductor cable

## Application

- Phosphoric acid evaporators pickling-tank heaters
- Metal Forming Industry – Melting of low melt alloys
- Chemical process equipment
- Propeller shafts
- Pickling hooks and equipment
- Tank/vessel Heating
- Spent nuclear fuel element recovery
- Tank trucks

## Specification

### Heating Cable Ordering Code

Example: MI AL-B 16N12220/60/2520/220/E1  
 Digit:           ①   ②       ③       ④       ⑤       ⑥       ⑦

Digit number	Description	Explanation
1	Sheath material	AL
2	Cable configuration	See Table 1
3	Cable reference	See Table 2, 3, 4
4	Cable length	In meter
5	Cable wattage	In Watts
6	Cable voltage	In volt
7	Gland size	See Table 5

### Heating Cable Decoding

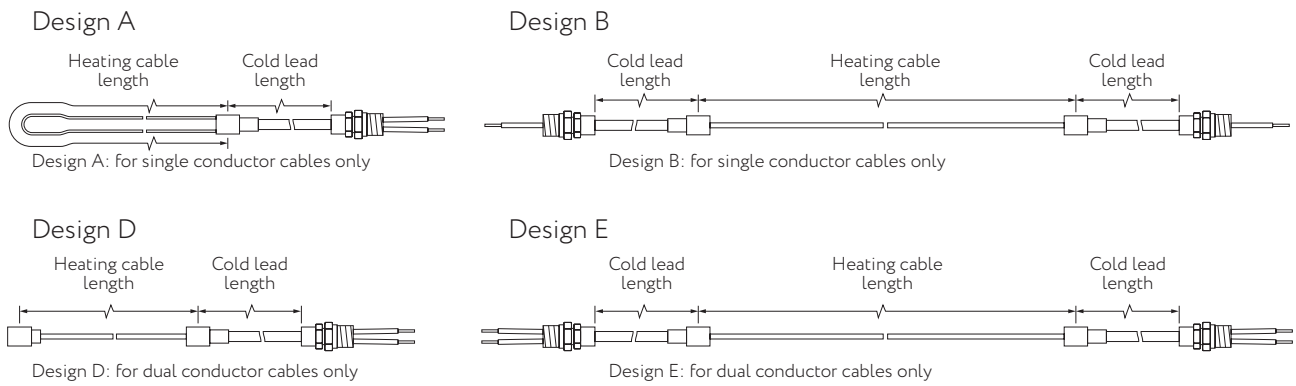
Example: 1   6   N   12220  
 Digit:   ①   ②   ③       ④

Digit number	Description	Explanation
1	Number of conductors	1 or 2
2	Maximum voltage rating	3=300V, 6=600V
3	Conductor material	K, N
4	Cable resistance × 1000	12220=12.22 Ω/m × 1000

# Alloy 825 Sheathed Mineral Insulated Heating Cable

## Cable Configurations

**Table 1**



## Cable References

**Table 2 Single Conductor 600V**

Cable ref	Diameter	Resist. at 20 °C	Nominal Length	Nominal Weight
	mm			
16C2.1	6.8	0.0021	130	218.0
16C3.4	5.9	0.0034	170	158.1
16C5.3	5.3	0.0053	210	121.8
16C8.5	4.7	0.0085	195	92.4
16C13	4.3	0.013	240	74.3
16C21	4.0	0.021	210	65.4
16K40	5.8	0.04	170	154.9
16K50	5.4	0.05	200	131.9
16K60	5.2	0.06	210	119.9
16K80	4.8	0.08	190	99.4
16K100	4.7	0.1	195	91.9
16K120	4.5	0.12	210	82.2
16N160	6.5	0.16	140	193.9
16N200	5.9	0.2	170	159.7
16N250	5.3	0.25	210	128.9
16N400	4.7	0.4	200	95.9
16N500	4.5	0.5	215	86.0
16N630	4.3	0.63	235	76.6
16N1000	3.9	1.0	290	60.9
16N1600	3.6	1.6	335	50.8
16N2500	3.4	2.5	300	45.5
16N2800	3.4	2.8	300	45.3
16N3300	3.4	3.3	300	45.1
16N4000	3.2	4.0	335	39.9
16N5200	3.2	5.2	335	39.6
16N6300	3.2	6.3	335	39.0
16N10000	3.2	10	335	38.7

HEATING CABLE



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**Table 3 Dual Conductor 600V**

Cable ref	Diameter	Resist. at 20 °C	Nominal Length	Nominal Weight
	mm	Ω/m	m	kg/km
26C8.4	9.8	0.0084	60	400.3
26C13.4	8.7	0.0134	75	308.6
26C21	7.9	0.021	95	246.9
26C34	7.3	0.034	110	208.1
26C54	6.3	0.054	145	153.9
26C85	5.6	0.085	185	120.8
26C130	5.3	0.13	215	104.8
26K180	7.9	0.18	95	255.9
26K260	7.4	0.26	105	220.5
26K360	6.8	0.36	130	180.8
26K500	6.4	0.5	145	159.3
26K650	5.9	0.65	165	131.3
26K1000	5.7	1.0	175	124.4
26K1300	6.2	1.3	150	147.3
26K2000	5.8	2.0	170	125.9
26K3300	5.4	3.3	205	109.1
26N4600	5.8	4.6	170	130.3
26N8000	5.4	8.0	205	111.5
26N13000	5.0	13.0	140	95.0
26N27000	4.8	27.0	150	87.1
26N40000	4.6	40.0	160	79.7
26N60000	4.4	60.0	175	72.8
26N72000	4.2	72.0	190	66.3

**Table 4 Dual Conductor 300V**

Cable ref	Diameter	Resist. at 20 °C	Nominal Length	Nominal Weight
	mm	Ω/m	m	kg/km
23K210	5.4	0.21	200	118.5
23K300	5.0	0.3	240	99.4
23K400	4.8	0.4	250	90.2
23K480	4.8	0.48	250	89.4
23K650	4.6	0.65	200	82.9
23K1000	4.1	1.0	210	64.8
23K1300	3.8	1.3	240	55.4
23K2000	5.0	2.0	235	97.2
23K2400	4.8	2.4	250	89.3
23K3000	4.6	3.0	200	80.5
23N4600	4.8	4.6	250	89.6
23N7500	4.6	7.5	200	80.0
23N11200	4.4	11.2	180	74.0
23N14000	4.2	14.0	200	67.4
23N18000	3.8	18.0	240	55.1
23N26000	3.6	26.0	270	49.2
23N40000	3.4	40.0	300	43.8
23N50000	3.4	50.0	300	43.7
23N60000	3.4	60.0	300	43.6
23N72000	3.4	72.0	300	43.6

**Note:** For the required voltage 600 V above application, please contact us.

# Alloy 825 Sheathed Mineral Insulated Heating Cable

## Gland Size

**Table 5**

Max. voltage (V)	Design A, D, E			Design B		
	Max. current (amps)	Gland size (English)	(Metric)	Max. current (amps)	Gland size (English)	(Metric)
600	15	E1	M1	20	E1	M1
600	20	E1	M1	25	E1	M1
600	30	E2	M2	40	E2	M2
600	50	E2	M2	70	E2	M2
600	70	E2	M2	100	E2	M2

**Note 1:** E1 stands for 1/2" NPT; E2 stands for 3/4" NPT; M1 stands for gland diameter M20; M2 stands for gland diameter M25. Stands model shall be advised properly while design.

**Note 2:** 2-meter-long cold lead is supplied with heating cable. For special requirement, please contact us.

## Corrosion Resistance

**Table 6**

Substance	Recommendation
Sulphuric Acid	Excellent
Hydrochloric Acid	Excellent
Hydrofluoric Acid	Excellent
Phosphoric Acid	Excellent
Nitric Acid	Excellent
Organic Acid	Excellent
Alkalis	Excellent
Sea Water	Excellent
Chloride	Excellent

## Explosion Proof

MIAL heating cables can be used in C1D2 explosion-proof area, for detailed design, contact us for further assistance.

## Approval

ATEX; IECEx



## Manufacturer

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## Supplier

SST GmbH

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