

Metal Outer Jacket Mineral-Insulated Cable MOIC-M

Heating cable MOIC-M is intended for heating pipelines, tanks and process equipment in the temperature range from -60 to +600 °C, including aggressive and explosive areas.

MOIC-M can be used in oil refining, chemical, pharmaceutical, food and other industries.

If the thermal output of the electric heating system is correctly calculated, the cable can be used in a broad temperature range.

Shipped as ready-made sections. A section consists of a heating cable, couplings, cold cable inserts, cable glands and flexible installation wires.

MOIC-M sections are purposefully designed for efficient and reliable operation where a high operating temperature has to be maintained, combined with high thermal output (for example, in the heating of bitumen plants and pipelines).

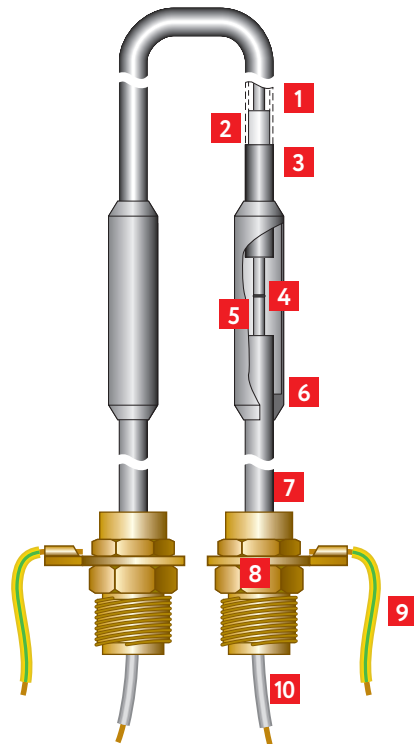
Due to the high thermal stability of the magnesium oxide insulation, the MOIC-M cable can be safely operated at ambient temperatures up to +600 °C.

MOIC-M cable has excellent mechanical strength and high corrosion resistance, can be operated in aggressive environments and hazardous areas, is fire-resistant and safe to operate.

- High mechanical strength
- High chemical resistance
- Easy installation
- Shipped as prefabricated sections

- Power supply voltage up to 660 V
- Temperature resistance up to +600 °C
- Explosion- and fire-safe

1. Heating conductor
2. MgO (magnesium oxide) core insulation
3. Outer metal jacket of the heating cable
4. Hard brazing
5. Current-carrying conductor
6. Coupling
7. Outer metal jacket of the cold cable insert
8. Cable connector M20
9. Grounding
10. Flexible installation wire



Approvals



° Certification is underway

Resistance to corrosive substances

Material, jacket	Sulfur compounds (H ₂ S, SO ₂)		Sulfuric acid°	Hydrochloric acid	Fluoride acid	Alkalis	Phosphoric acid	Sea water	Nitric acid	Chlorine°°		Organic acids°°°
	dry	moist								dry	moist	
Copper	Yellow	Red	Red	Red	Red	Green	Green	Yellow	Red	Green	Red	Red
Copper-nickel alloy	Yellow	Red	Red	Red	Green	Yellow	Green	Yellow	Red	Green	Red	Red
Stainless steel	Green	Green	Red	Red	Green	Yellow	Green	Yellow	Red	°	Red	Red
Inconel	Yellow	Yellow	Yellow	Green	Green	Yellow	Green	Yellow	Yellow	Yellow	Yellow	Red

- Yellow - recommended
- Green - allowable
- Red - to be confirmed
- Red with diagonal lines - not recommended

- ° - Depending on concentration and temperature
- °° - Resistance to chlorines depends on the chemical composition of the salt
- °°° - Different resistance to different organic acids

Extra-High Temperature Series-Resistance Cables

Technical Data

Operating voltage	up to 660 V
Maximum linear power	up to 400 W/m
Insulation resistance, min	10 ³ MOhm·m
Maximum thermal resistance	up to +600 °C
Ambient temperature range	-60...+50 °C
Ex marking	1Ex e IIC T1...T3 Gb X
Degree of external protection GOST 14254-96	IP67
Earth leakage current	3 mA/100 m
Minimum installation temperature	-60 °C
Minimum bending radius	6 outer diameters

Accessories (to be ordered separately)

Junction boxes for connection of heating cables with mineral insulation.

Cable Versions (used in section)

Cable	Material core	Resistance core at 20 °C, Ohm/km	Outer diameter of cable, mm	Cold ends		Order code
				Cross section, mm	Dia-meter, mm	
Heating cable with a copper jacket						
MOIC-M-4-C-LT	Copper	4	5,9	16	8,3	3202003100
MOIC-M-7-C-LT	Copper	7	5,3	10	7,3	3202003101
MOIC-M-11-C-LT	Copper	11	4,9	6,0	6,4	3202003102
MOIC-M-17-C-LT	Copper	17	4,6	6,0	6,4	3202003103
MOIC-M-25-C-LT	Copper	25	3,7	6,0	6,4	3202003104
MOIC-M-40-C-LT	Copper	40	3,4	2,5	5,3	3202003105
MOIC-M-63-C-LT	Copper	63	3,2	2,5	5,3	3202003106
Heating cable with a copper-nickel jacket						
MOIC-M-4-CN-MT	Copper	4	5,9	16	8,3	3202003107
MOIC-M-7-CN-MT	Copper	7	5,3	10	7,3	3202003108
MOIC-M-11-CN-MT	Copper	11	4,9	6,0	6,4	3202003109
MOIC-M-17-CN-MT	Copper	17	4,6	6,0	6,4	3202003110
MOIC-M-25-CN-MT	Copper	25	3,7	6,0	6,4	3202003111
MOIC-M-40-CN-MT	Copper	40	3,4	2,5	5,3	3202003112
MOIC-M-63-CN-MT	Copper	63	3,2	2,5	5,3	3202003113
MOIC-M-160-CN-MT	Constantan	160	4,9	6,0	6,4	3202003114
MOIC-M-250-CN-MT	Constantan	250	4,4	2,5	5,3	3202003115
MOIC-M-400-CN-MT	Constantan	400	4,0	2,5	5,3	3202003116
MOIC-M-630-CN-MT	Constantan	630	3,7	2,5	5,3	3202003117
MOIC-M-1000-CN-MT	Constantan	1000	3,4	2,5	5,3	3202003118
MOIC-M-1600-CN-MT	Constantan	1600	3,2	2,5	5,3	3202003119
Heating cable with an iniconel jacket						
MOIC-M-160-I-MT	Nichrome	160	6,5	6,0	6,4	3202003120
MOIC-M-250-I-MT	Nichrome	250	5,3	6,0	6,4	3202003121
MOIC-M-400-I-MT	Nichrome	400	4,7	2,5	5,3	3202003122
MOIC-M-630-I-MT	Nichrome	630	4,3	2,5	5,3	3202003123
MOIC-M-1000-I-MT	Nichrome	1000	3,9	2,5	5,3	3202003124
MOIC-M-1600-I-MT	Nichrome	1600	3,6	2,5	5,3	3202003125
MOIC-M-2500-I-MT	Nichrome	2500	3,4	2,5	5,3	3202003126
MOIC-M-4000-I-MT	Nichrome	4000	3,2	2,5	5,3	3202003127
MOIC-M-6300-I-MT	Nichrome	6300	3,2	2,5	5,3	3202003128
MOIC-M-10000-I-MT	Nichrome	10000	3,2	2,5	5,3	3202003129
Heating cable with a stainless steel jacket						
MOIC-M-160-ST-HT	Nichrome	160	6,5	6,0	6,4	3202003130
MOIC-M-250-ST-HT	Nichrome	250	5,3	6,0	6,4	3202003131
MOIC-M-400-ST-HT	Nichrome	400	4,7	2,5	5,3	3202003132
MOIC-M-630-ST-HT	Nichrome	630	4,3	2,5	5,3	3202003133
MOIC-M-1000-ST-HT	Nichrome	1000	3,9	2,5	5,3	3202003134
MOIC-M-1600-ST-HT	Nichrome	1600	3,6	2,5	5,3	3202003135
MOIC-M-2500-ST-HT	Nichrome	2500	3,4	2,5	5,3	3202003136
MOIC-M-4000-ST-HT	Nichrome	4000	3,2	2,5	5,3	3202003137
MOIC-M-6300-ST-HT	Nichrome	6300	3,2	2,5	5,3	3202003138
MOIC-M-10000-ST-HT	Nichrome	10000	3,2	2,5	5,3	3202003139

Ordering Information

Example: Heating section, cable MOIC-M
35MOIC-M 2-250-CN-0250-040

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1. Linear power output, W/m
2. Section name (metal outer jacket industrial cable, mineral insulated)
3. Rated voltage: (2 – 230, 3 – 400, 5 – custom value, 6 – 660 V)
4. Resistance, Ohm/km
5. Outer jacket type (C – copper, CN – copper-nickel alloy, I – iniconel, ST – stainless steel)
6. Hot cable length, dm
7. Cold fragment length on every side, dm

Available Jacket Options

1. Copper	Maximum temperature resistance up to +200 °C
2. Copper-nickel alloy	Maximum temperature resistance up to +400 °C
3. Iniconel or stainless steel	Maximum temperature resistance up to +600 °C

Maximum Operating Temperatures

