



PRODUCT SPECIFICATIONS

MIQ™ MINERAL INSULATED CABLE WITH LASER WELDED FITTINGS

APPLICATION

Process Temperature Maintenance or Freeze Protection MIQ high performance mineral insulated heating cables are used extensively for high temperature maintenance, high temperature exposure and/or high watt density applications which exceed the limitations of thermoplastic insulated cables. The resistance configurations available can provide tracing for pipes up to 1 mile (1.6 km) long from a single power supply point.

Thermon's MIQ mineral insulated cables are manufactured using Alloy 825, a high nickel/chromium alloy ideally suited for high temperature service that offers exceptional resistance to stress corrosion in chloride, acid, salt and alkaline environments.

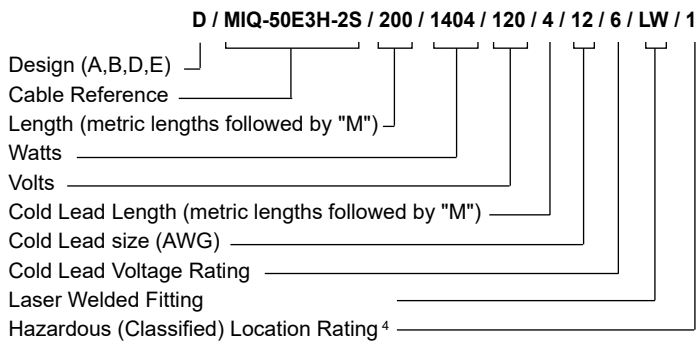
MIQ cables are approved for use in ordinary (nonclassified) areas and hazardous (classified) areas.

RATINGS

- Rated voltage ¹ 300 and 600 Vac
- Max. maintenance temperature ² 932°F (500°C)
- Max. continuous exposure temperature
- Power-off 1,112°F (600°C)
- Max. watt density ² up to 80 w/ft (262 w/m)
- Minimum installation temperature -76°F (-60°C)
- Minimum bend radius 6 x cable O.D.

MIQ CATALOG REFERENCE NUMBER

A complete catalogue reference number includes the following components:



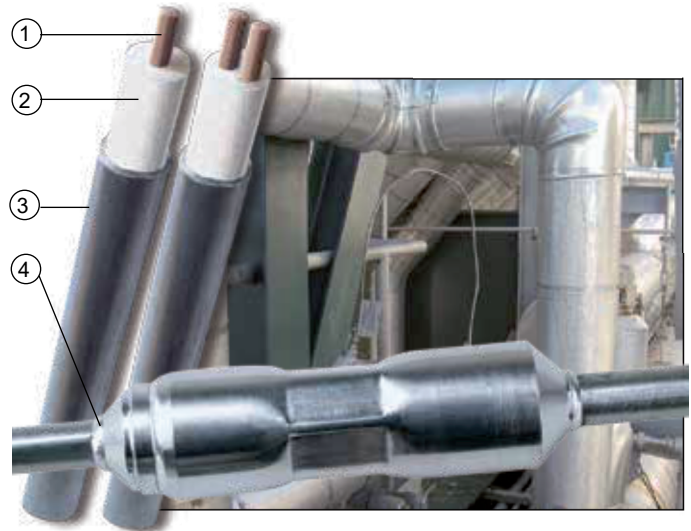
Notes

1. Definition as stated in IEEE Standard 515. Specific voltage depends on circuit length and design conditions.
2. Watt density limitations are correlated to maintain temperatures. Maximum watt density for CSA certified application is 50 w/ft (164 w/m).
3. Cold lead gland is 1/2" NPT except for 2-conductor sets with larger wire sizes for which a 3/4" NPT gland is provided. Contact Thermon for gland size information.
4. If the field is blank, then the heating cable set is intended for ordinary (non-classified) locations or D2, AEx de, or Ex de hazardous (classified) locations. If the value in the field is "1", then the heating cable set is intended for D1, AEx d, or Exd hazardous (classified) locations.

THERMON The Heat Tracing Specialists®

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CONSTRUCTION

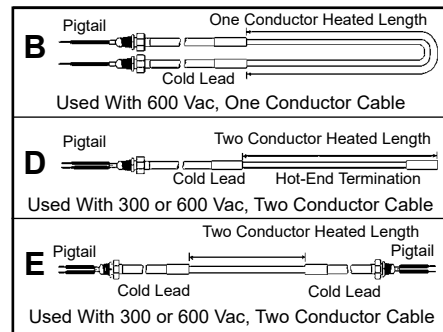
- 1 Solid alloy or copper conductor(s)
- 2 Compacted magnesium oxide insulation
- 3 Seamless alloy 825 sheath
- 4 Laser Welded Assembly

MIQ HEATER SETS

Thermon MIQ cable sets are available in three factory fabricated configurations: Type B, D or E. The standard assemblies consist of a predetermined length of heating cable joined to a standard 4' (1.2 m) or 7' (2.1 m) nonheating cold lead with 12" (305 mm) long thermoplastic insulated pigtails.

The nonheating section of the unit is sealed and fitted with a high pressure, liquid-tight 1/2" or 3/4" NPT stainless steel gland ³ for connection into the supply junction box.

Heater Set Types





MIQ™ MINERAL INSULATED CABLE WITH LASER WELDED FITTINGS

AVAILABLE MIQ CABLES

600 Vac Cable—Two Conductor—Heater Set Type D or E

Catalog Number	Resistance ¹		Nominal Diameter	
	ohms/ft	ohms/m	in	mm
MIQ-11EOH-2S	11.0	36.1	0.220	5.6
MIQ-90E1H-2S	9.0	29.5	0.225	5.7
MIQ-60E1H-2S	6.0	19.7	0.230	5.8
MIQ-40E1H-2S	4.0	13.1	0.240	6.1
MIQ-20E1H-2S	2.00	6.56	0.255	6.5
MIQ-10E1H-2S	1.00	3.28	0.255	6.5
MIQ-70E2H-2S	0.70	2.30	0.265	6.7
MIQ-50E2H-2S	0.50	1.64	0.280	7.1
MIQ-30E2H-2S	0.30	0.98	0.300	7.6
MIQ-20E2H-2S	0.20	0.66	0.255	6.5
MIQ-15E2H-2S	0.15	0.49	0.265	6.7
MIQ-10E2H-2S	0.10	0.33	0.280	7.1
MIQ-70E3H-2S	0.070	0.230	0.295	7.5
MIQ-50E3H-2S	0.050	0.164	0.310	7.9
MIQ-40E3H-2S	0.040	0.131	0.325	8.3
MIQ-30E3H-2S	0.030	0.098	0.345	8.8
MIQ-20E3H-2S	0.020	0.066	0.270	6.9
MIQ-16E3H-2S	0.016	0.052	0.280	7.1
MIQ-13E3H-2S	0.013	0.043	0.290	7.4
MIQ-10E3H-2S	0.0104	0.0341	0.300	7.6
MIQ-81E4H-2S	0.00818	0.02684	0.300	7.6

600 Vac Cable—One Conductor—Heater Set Type B

Catalog Number	Resistance ¹		Nominal Diameter	
	ohms/ft	ohms/m	in	mm
MIQ-20E1H-1S	2.00	6.56	0.170	4.3
MIQ-16E1H-1S	1.60	5.25	0.170	4.3
MIQ-13E1H-1S	1.30	4.27	0.170	4.3
MIQ-10E1H-1S	1.00	3.28	0.170	4.3
MIQ-85E2H-1S	0.85	2.79	0.170	4.3
MIQ-70E2H-1S	0.70	2.30	0.170	4.3
MIQ-50E2H-1S	0.50	1.64	0.170	4.3
MIQ-38E2H-1S	0.38	1.25	0.170	4.3
MIQ-30E2H-1S	0.30	0.98	0.170	4.3
MIQ-25E2H-1S	0.25	0.82	0.170	4.3
MIQ-20E2H-1S	0.20	0.66	0.175	4.4
MIQ-17E2H-1S	0.17	0.56	0.180	4.6
MIQ-15E2H-1S	0.15	0.49	0.170	4.3
MIQ-10E2H-1S	0.10	0.33	0.170	4.3
MIQ-80E3H-1S	0.080	0.262	0.170	4.3
MIQ-70E3H-1S	0.070	0.230	0.170	4.3
MIQ-60E3H-1S	0.060	0.197	0.170	4.3
MIQ-40E3H-1S	0.040	0.131	0.175	4.4
MIQ-30E3H-1S	0.030	0.098	0.185	4.7
MIQ-20E3H-1S	0.020	0.066	0.200	5.1
MIQ-10E3H-1S	0.010	0.03395	0.170	4.3
MIQ-65E4H-1S	0.00651	0.02135	0.180	4.6
MIQ-40E4H-1S	0.00409	0.01342	0.190	4.8
MIQ-25E4H-1S	0.00258	0.00846	0.210	5.3
MIQ-16E4H-1S	0.00162	0.00531	0.225	5.7

300 Vac Cable—Two Conductor—Heater Set Type D or E

Catalog Number	Resistance ¹		Nominal Diameter	
	ohms/ft	ohms/m	in	mm
MIQ-11EOL-2S	11.0	36.1	0.160	4.1
MIQ-90E1L-2S	9.0	29.5	0.160	4.1
MIQ-75E1L-2S	7.5	24.6	0.160	4.1
MIQ-60E1L-2S	6.0	19.7	0.160	4.1
MIQ-50E1L-2S	5.0	16.4	0.160	4.1
MIQ-40E1L-2S	4.0	13.1	0.160	4.1
MIQ-32E1L-2S	3.20	10.5	0.160	4.1
MIQ-27E1L-2S	2.75	9.02	0.160	4.1
MIQ-25E1L-2S	2.50	8.20	0.160	4.1
MIQ-20E1L-2S	2.00	6.56	0.160	4.1
MIQ-17E1L-2S	1.70	5.58	0.160	4.1
MIQ-14E1L-2S	1.40	4.59	0.160	4.1
MIQ-10E1L-2S	1.00	3.28	0.165	4.2
MIQ-70E2L-2S	0.70	2.30	0.180	4.6
MIQ-50E2L-2S	0.50	1.64	0.190	4.8
MIQ-30E2L-2S	0.30	0.98	0.170	4.3
MIQ-25E2L-2S	0.25	0.82	0.170	4.3
MIQ-20E2L-2S	0.20	0.66	0.170	4.3
MIQ-15E2L-2S	0.15	0.49	0.175	4.4
MIQ-10E2L-2S	0.10	0.33	0.190	4.8
MIQ-70E3L-2S	0.070	0.230	0.205	5.2
MIQ-50E3L-2S	0.050	0.164	0.225	5.7

CIRCUIT BREAKER SIZING²

Maximum circuit lengths for various circuit breaker amperages are shown. Breaker sizing should be based on the National Electrical Code, Canadian Electrical Code or any other applicable code. The National Electrical Code and Canadian Electrical Code require ground-fault protection of equipment for each branch circuit supplying electric heating equipment. Check local codes for ground-fault protection requirements.

CERTIFICATIONS/APPROVALS



Factory Mutual Research
Underwriters Laboratories Inc.
Ordinary Locations
Hazardous (Classified) Locations
Class I, Division 1 Groups B, C and D 2
Class I, Division 2, Groups A, B, C and D
Class II, Divisions 1 and 2 Groups E, F and G
Class III, Divisions 1 and 2
Class 1, Zone 1 AEx d IIC2
Class 1, Zone 1 AEx de IIC



Canadian Standards Association
Ordinary Locations
Hazardous (Classified) Locations
Class I, Division 1, Groups B, C and D 2
Class I, Division 2, Groups A, B, C and D
Class II, Divisions 1 and 2, Groups E, F and G
Class III, Divisions 1 and 2
Ex d IIC 2
Ex de IIC

Notes

- All resistances shown are per length of cable at 68°F (20°C) and are subject to a ±10% manufacturing tolerance.
- Flameproof system must be specified, contact Thermon.