



System 2000™ Twisted Pair

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OATO
011A

Alloy 825 sheathed, mineral insulated, fire-rated communication and instrumentation cable

Pyrotex® fire-rated shielded twisted-pair communication and instrumentation mineral insulated (MI) cable is useful in reducing crosstalk and electromagnetic induction and is suitable for use in applications where the possibility of hydrocarbon flash fires may exist, in both nonhazardous and hazardous locations.

System 2000™ shielded twisted pair cable is constructed with an Alloy 825 sheath and nickel-clad copper conductors which allows continuous exposure temperatures to 1238°F (670°C) and withstands rapid-rise temperature excursions to 1950°F (1065°C). In addition, the sheath provides durability in areas where corrosives may be present.

MI cable is made of inorganic materials and provides zero smoke generation, zero fuel

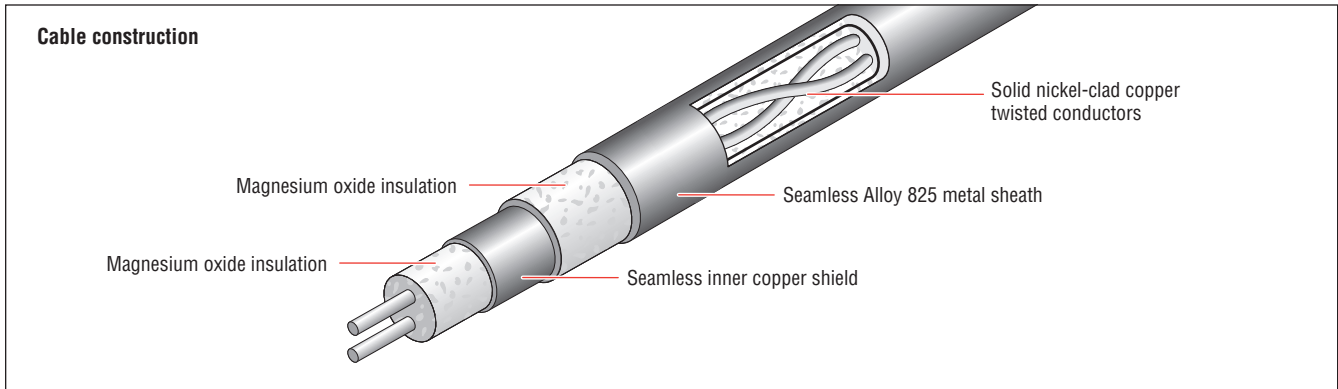
contribution, and zero flame spread. Highly compacted MgO insulation prevents the flow and transmission of explosive gases through the cable.

System 2000 shielded twisted pair cable may be used for communication and instrumentation wiring in the following environments:

- Petrochemical and Mining - in hazardous areas to provide a gas path block
- Manufacturing - in areas of extreme heat, around furnaces, etc.
- Tunnels and confined spaces – MI cables do not burn; no smoke generated
- Nuclear & fossil fuel power generation plants - for wiring to equipment where heat or radiation may be of concern
- Pulp and Paper - where corrosives are present

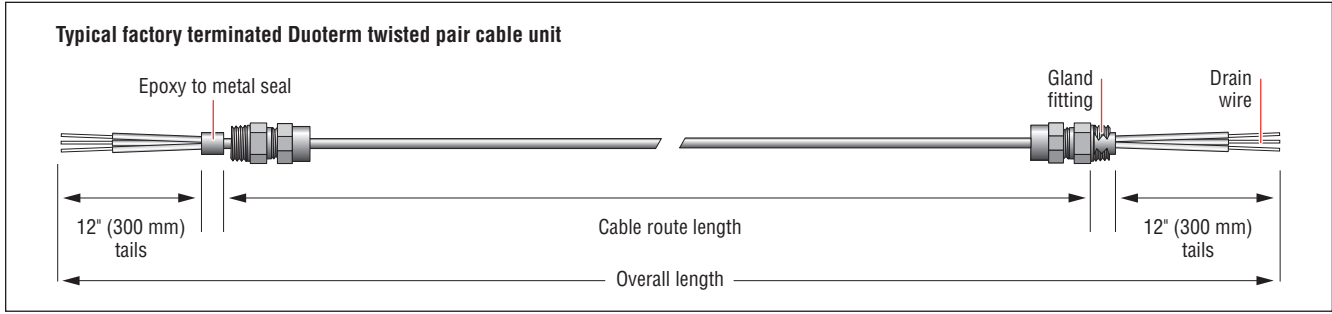
System 2000 shielded twisted pair cable is typically supplied as a factory assembled Duoterm™ unit complete with terminations at each end, allowing for immediate installation in the field. In hazardous areas, the simplified installation of MI cable means that conduit systems and explosion proof seals are not required; simply connect the cable directly to the equipment or junction box.

Pyrotex System 2000 shielded twisted pair cable meets the requirements of national electrical codes. For additional information on factory assembled Duoterm units, or for additional information on bulk cable and field installed terminations, contact your Tyco Thermal Controls representative or call Tyco Thermal Controls at (800) 545-6258.



Cable Construction

Sheath	Seamless Alloy 825
Shield	Copper
Insulation	Magnesium oxide (MgO)
Conductor type	Nickel-clad copper
Insulation voltage rating	300 V
Conductor size	18 AWG (Physical conductor size is 14 AWG due to nickel cladding)
Number of conductors	2



Cable Temperature Rating

Continuous exposure temperature	1238°F (670°C)
Maximum exposure temperature	1950°F (1065°C)

Termination Construction

Gland fitting	Nickel-plated brass	
Potting material	Epoxy resin	
Tails		
Standard tail length	12 in (300 mm)	
Maximum exposure temperature ¹	Nonhazardous	Hazardous
MFA insulated stranded wire	392°F (200°C)	302°F (150°C)
PVC sleeving	220°F (105°C)	220°F (105°C)
Size		
Factory assembled Duoterm	18 AWG	
Field installed termination	14 AWG	
Colors	Black, red, brown (other colors available on request)	

¹ For factory assembled Duoterm units, MFA insulated stranded wire tails are standard. For field installed terminations, solid wire tails with PVC sleeving is standard.

300 V Shielded Twisted Pair Cable Specifications (Nominal)

Cable Reference No.	350/250/2TS
Conductor size (AWG)	18
Coil length (ft)	1000
Coil length (m)	305
Weight (lbs/1000 ft)	294
Weight (kg/km)	437
Gland size (NPT)	3/4"
Twist frequency (per ft)	4–6
Conductor-to-conductor capacitance (pF/ft) @ 1 kHz	64
Conductor-to-shield capacitance (pF/ft) (one wire to shield)	97
Velocity of propagation (%)	40
Conductor resistance (ohms/1000 ft)	4.55
Sheath/shield resistance (ohms/1000 ft)	37.31/1.04
Diameter of outer sheath (in)	0.350
Diameter of shield (in)	0.250

Approvals

Bulk Cable**Ordinary Locations****Hazardous Locations**

Class I, Div. 1 and 2, Groups A, B, C, D
Class II, Div. 1 and 2, Groups E, F, G
Class III, Div. 1 and 2

**Ordinary Locations****Hazardous Locations**

Class I, Div. 1 and 2, Groups A, B, C, D
Class II, Div. 1 and 2, Groups E, F, G
Class III, Div. 1 and 2

Factory Assembled Duoterm Units and Field Installed Termination Kits**Ordinary Locations****Hazardous Locations**

Class I, Div. 1 and 2, Groups A, B, C, D
Class II, Div. 1 and 2, Groups E, F, G
Class III, Div. 1 and 2

Note: Approvals shown for Factory Assembled Duoterm Units and Field Installed Termination Kits applies to cables terminated with manufacturer supplied epoxy seal. Contact Tyco Thermal Controls for approvals on other available termination kits.