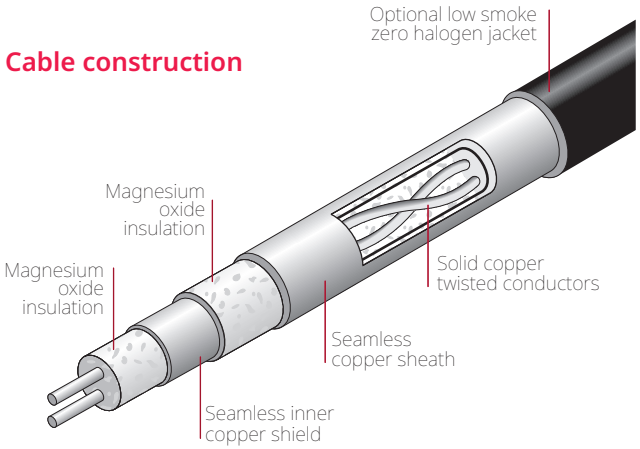
SYSTEM 1850 TWISTED PAIR

Pyrotenax

2-Hour fire-rated, mineral insulated copper-sheathed fire alarm and voice communication cable for critical and essential circuit protection during a fire

PRODUCT OVERVIEW

Cable construction



Shielded twisted pair cable shown

Mineral insulated (MI) wiring cable for critical fire alarm circuit protection when survival throughout a fire is essential.

Pyrotenax System 1850 fire alarm and voice comunication MI cable is a ULC Listed 2-hour fire-resistive cable tested to the ULC-S139 fire test standard. When installed in accordance with Chemelex installation procedures, it meets the survivability requirements of National Building Code of Canada (NBCC), Canadian Electrical Code (CEC) and NFPA 72. The cable meets cCSAus to US Standard as an NEC Article 332 Type MI cable only. (90°C maximum, non-fire rated).

System 1850 fire alarm and voice communication cables are manufactured using only inorganic materials, copper and magnesium oxide, and arrive on the job site with a ULC fire-resistive classification that does not require additional conduit or fireproofing. System 1850 twisted pair cables can also be supplied with an optional low smoke zero halogen polymer jacket for added corrosion protection or for embedded applications.

System 1850 fire alarm cable is CSA certified as FAS, FAS 90 and FAS 105 cable. Applications include the main trunk or “backbone” of multiplex alarm systems in high-rise buildings and institutions. System 1850 fire alarm and voice communication cable connects between the data-gathering panels throughout the building and the main fire alarm panel.

System 1850 can be found in the following environments.

- High-rise buildings for fire alarm and voice communication systems
- Hospitals and other institutions where mobility is limited, for emergency communication systems
- Historic buildings where it can be installed unobtrusively, as well as to assure preservation of fire-fighting systems
- Tunnels and subways for the emergency voice communication system, where its zero smoke properties make it unique
- Airports, stadiums, hotels, banks, etc.

System 1850 Twisted Pair MI cable terminations are typically field installed. Factory terminated cable sets are also available. For details on terminated cable sets, contact Chemelex.

For additional information, contact your Chemelex representative or call (800) 545-6258.

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CABLE CONSTRUCTION

Sheath/shield	Seamless soft-drawn copper
Insulation	Highly compressed magnesium oxide (MgO)
Conductor type	Copper
Insulation voltage rating	300 V
Conductor size	18 AWGw and 16 AWG
Jacket (optional)	Polymer (low-smoke, zero-halogen)
Number of conductors	2

CABLE TEMPERATURE RATING

Continuous exposure temperature	250°C (482°F); 90°C (194°F) with optional jacket
Maximum exposure temperature	1010°C (1850°F)

BENDING RADIUS

	NEC	CEC
	5 times cable diameter	6 times cable diameter

TERMINATION KITS

	Pyropak Kit	Pyropak Kit
Seal type	Mastic compound	Epoxy resin
Gland fitting	Brass	Brass
Cable seal rating	Nonhazardous and hazardous locations: 105°C (221°F) maximum	Nonhazardous and hazardous locations: 120°C (248°F) maximum1 Optional epoxy resin available for 200°C (392°F)1
Tail sleeving Standard sleeve length Maximum exposure temperature	 12 in (300 mm) 105°C (221°F)	 12 in (300 mm) 105°C (221°F)
Tail AWG size Twisted pair Shielded twisted pair	 18 AWG and 16 AWG solid 18 AWG and 16 AWG solid/18 AWG drain wire	 18 AWG and 16 AWG solid 18 AWG and 16 AWG solid/18 AWG drain wire

1 For entire termination to achieve maximum temperature of epoxy resin seal, silicone fiberglass sleeving must be used (refer to Termination Kits data sheet, H58421)

Notes:

- For field-terminated cables, tails are obtained by stripping back the cable sheath; refer to the termination kit installation instructions for details.
- For factory-terminated cables, epoxy resin seal and 12 in (300 mm) tails are standard.

300 V TWISTED PAIR CABLE SPECIFICATIONS

	Twisted Pair		Shielded Twisted Pair	
Cable Reference Number	**2/18-215T**	**2/16-246T**	**2/18-324TS**	**2/16-364TS**
Conductor size (AWG)	18	16	18	16
Nominal coil length (ft)	3060	2084	1404	1107
Nominal coil length (m)	933	635	428	338
Nominal weight (lbs/1000 ft)	77	90	200	254
Gland size (NPT)	½"	½"	¾"	¾"
Twisted frequency (per ft)	4–6	4–6	4–6	4–6
Nominal conductor-to-conductor capacitance (pF/ft) @ 1 kHz	47	53	52	57
Nominal conductor-to-shield capacitance (pF/ft) (one wire to shield)	77	88	82	92
Velocity of propagation (%)	30–35	30–35	30–35	30–35
Nominal conductor resistance (ohms/1000 ft)	6.50	4.09	6.50	4.09
Nominal sheath/shield resistance (ohms/1000 ft)	0.8	0.6	0.3/1.0	0.1/0.8
Nominal diameter of outer sheath (in)	0.215	0.246	0.324	0.364
Nominal diameter of shield (in)	–	–	0.198	0.230
Jacket (Low Smoke Zero Halogen)	–	–	Optional	Optional

Note: For cables with the optional low-smoke, zero-halogen polymer jacket, add suffix "Z" after the cable reference number.
Example: 2/18-324TSZ

APPROVALS

BULK CABLE

Nonhazardous 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

Nonhazardous Locations

ULC Listed, 2-hour fire-resistant cable, tested to ULC-S139 with hose stream

TERMINATED CABLE

PYROPAK KIT (MASTIC COMPOUND SEAL)

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

PYROPAK KIT (EPOXY RESIN SEAL)

Nonhazardous 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

North America
Tel +1 800 545 6258
info@chemelex.com

Latin America
Tel +1 713 868 4800
info@chemelex.com

Europe, Middle East, Africa, India
Tel +32 16 213 511
Fax +32 16 213 604
info@chemelex.com

Asia Pacific
Tel +86 21 2412 1688
infoAPAC@chemelex.com

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