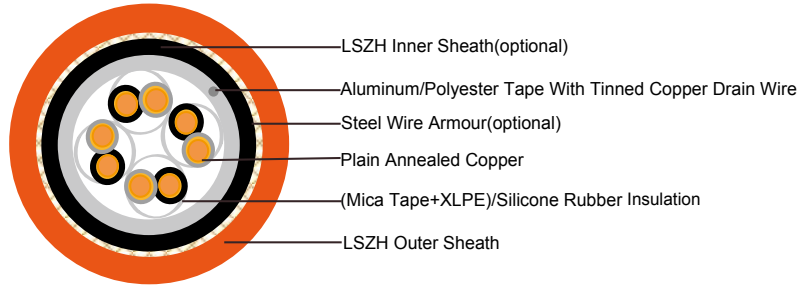


300/500V Mica+XLPE/SR Insulated & Overall Screened Multipair Instrumentation Cables

- RE-2X(St)H...CI. FE 180 PH30 (CU/MGT+XLPE/OSCR/LSZH 300/500V Class 2)
- RE-2G(St)H...CI. FE 180 PH30 (CU/SR/OSCR/LSZH 300/500V Class 2)
- RE-2X(St)HSAWAH...CI. FE 180 PH30 (CU/MGT+XLPE/OSCR/LSZH/SAWA/LSZH 300/500V Class 2)
- RE-2G(St)HSAWAH...CI. FE 180 PH30 (CU/SR/OSCR/LSZH/SAWA/LSZH 300/500V Class 2)



APPLICATION

The cables are designed, manufactured and tested as data transmission cables for emergency services. These are used for data and voice transmission when high frequency signal has to be assured also in the event of a fire.

STANDARDS

Basic design to BS 5308/BS 7629-1

FIRE PERFORMANCE

Circuit Integrity	IEC 60331-21; BS 6387 CWZ; DIN VDE 0472-814(FE180); BS 8434-1 (30mins); BS 5839-1 Clause 26 2d; CEI 20-36/2-1; SS229-1; NBN C 30-004 (cat. F3); NF C32-070-2.3(CR1)
Circuit Integrity with mechanical shock	EN 50200(PH30); CEI 20-36/4-0
Circuit Integrity with mechanical shock & water spray	EN 50200 annex E
System circuit integrity	DIN 4102-12, E30 depending on lay system
Flame Retardance (Single Vertical Wire Test)	EN 60332-1-2; IEC 60332-1-2; BS EN 60332-1-2; VDE 0482-332-1 ; NBN C 30-004 (cat. F1); NF C32-070-2.1(C2); CEI 20-35/1-2; EN 50265-2-1*; DIN VDE 0482-265-2-1*
Reduced Fire Propagation (Vertically-mounted bundled wires & cable test)	EN 60332-3-24 (cat. C); IEC 60332-3-24; BS EN 60332-3-24; VDE 0482-332-3; NBN C 30-004 (cat. F2); NF C32-070-2.2(C1); CEI 20-22/3-4; EN 50266-2-4*; DIN VDE 0482-266-2-4
Halogen Free	IEC 60754-1; EN 50267-2-1; DIN VDE 0482-267-2-1; CEI 20-37/2-1 ; BS 6425-1*



No Corrosive Gas Emission	IEC 60754-2; EN 50267-2-2; DIN VDE 0482-267-2-2; CEI 20-37/2-2 ; BS 6425-2*
Minimum Smoke Emission	IEC 61034-1&2; EN 61034 -1&2; DIN VDE 0482-1034-1&2; CEI 20-37/3-1&2; EN 50268-1&2*; BS 7622-1&2*
No Toxic gases	NES 02-713; NF C 20-454

Note: Asterisk * denotes superseded standard.

CABLE CONSTRUCTION

- Conductor:** Plain annealed copper wire, stranded according to IEC(EN) 60228 class 2.
- Insulation:** Mica glass tape covered by extruded cross-linked XLPE compound or fire resistant silicone rubber compound type EI2 as per BS 7655-1.1.
- Cabling Elements:** Insulated cores are twisted to form pairs with varying lay length to minimize crosstalk. Two-pair cable had four cores laid in quad formation.
- Cabling:** Pairs are cabled together. In cables with 8 pairs or more, 4 pairs are assembled to form a bunch, the bunches are then cabled together.
- Overall Screen:** Aluminum/polyester tape with 0.5mm² screen (7/0.3mm) tinned copper drain wire.
- Inner Sheath(optional):** Thermoplastic LSZH compound type LTS3 as per BS 7655-6.1
- Armouring(optional):** Galvanized steel wire armour
- Outer Sheath:** Thermoplastic LSZH compound type LTS3 as per BS 7655-6.1 (Thermosetting LSZH compound type SW2-SW4 as per BS 7655-2.6 can be offered.)

VOLTAGE RATING

300/500 V

COLOUR CODE

- Insulation Colour:** White with black numberings.
- Sheath Colour:** Orange (other colours on request).

TYPE CODE

RE-	Instrumentation cable	H	Halogen free & zero halogen
2X	XLPE	2G	Silicon Rubber
(St)	Static shield of aluminium tape	SWA	Steel Wire Armoured
FE180	Insulation integrity (950°C 180 minutes)	CI	Circuit integrity
PH 90	Fire Test for 90 mins at 830°C		

PHYSICAL AND THERMAL PROPERTIES

- Temperature range during operation (fixed state):** -30°C – +70°C
- Temperature range during installation (mobile state):** -20°C – +50°C
- Minimum bending radius:**
 - 6 x Overall Diameter (unarmoured cables with silicone rubber insulation)
 - 8 x Overall Diameter (unarmoured cables with XLPE insulation)
 - 10 x Overall Diameter (armoured cables)

ELECTRICAL PROPERTIES

Dielectric test:	2000 V r.m.s. x 5' (core/core)
Insulation Resistance	XLPE: $\geq 1000 \text{ M}\Omega \times \text{km}$ (at 20°C); SR: $\geq 300 \text{ M}\Omega \times \text{km}$ (at 20°C)
Short circuit Temperature	XLPE: 250°C SR: 350°C

CONSTRUCTION PARAMETERS

Conductor		RE-2X(St)H...CI. FE 180 PH30 RE-2G(St)H...CI. FE 180 PH30		RE-2X(St)HSWAH...CI. FE 180 PH30 RE-2G(St)HSWAH...CI. FE 180 PH30				
No. of Pairs X Cross Section	No./ Nominal Diameter of Strands	Nominal Insulation Thickness	Unarmoured		Armoured			
			Nominal Overall Diameter	Approx. Weight	Diameter Under Armour	Armour Wire Diameter	Nominal Overall Diameter	Approx. Weight
mm ²	no./mm	mm	mm	kg/km	mm	mm	mm	kg/km
1 Pairs								
1X2x1.0	7/0.43	0.6	8.0	76	8.0	0.90	12.4	281
1X2x1.5	7/0.53	0.7	8.5	94	8.5	0.90	13.1	332
1X2x2.5	7/0.67	0.8	10.5	130	10.5	0.90	15.1	401
2 Pairs								
2X2x1.0	7/0.43	0.6	12.4	120	12.4	0.90	17.4	370
2X2x1.5	7/0.53	0.7	14.0	160	14.0	0.90	18.4	450
2X2x2.5	7/0.67	0.8	16.0	230	16.0	0.90	20.5	550
5 Pairs								
5X2x1.0	7/0.43	0.6	16.5	276	16.5	1.25	22	854
5X2x1.5	7/0.53	0.7	20.5	368	20.5	1.25	26.2	1023
5X2x2.5	7/0.67	0.8	23.0	518	23.0	1.25	28.9	1276
10 Pairs								
10X2x1.0	7/0.43	0.6	20.5	501	20.5	1.25	26.4	1271
10X2x1.5	7/0.53	0.7	26.0	673	26.0	1.60	32.8	1742
10X2x2.5	7/0.67	0.8	29.5	971	29.5	1.60	36.5	2205
20 Pairs								



Caledonian

Fire Resistant Instrumentation Cables

www.caledonian-tech.net www.caledonian-tech.com



20X2x1.0	7/0.43	0.6	26.5	917	26.5	1.60	33.3	2197
20X2x1.5	7/0.53	0.7	34.0	1258	34.0	1.60	41.2	2705
20X2x2.5	7/0.67	0.8	38.5	1830	38.5	2.00	46.7	3836

Note : Other conductor sizes & pair configurations are available upon request.



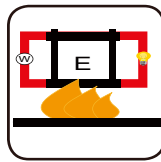
300/500V

Rated Voltage



BS 5308

Standard



Circuit Integrity
IEC 60331/BS 6387
EN 50200
NF C32-070-2.3(CR1)



Reduced Fire Propagation
NF C32-070-2.2(C1)
IEC60332-3-24/EN50266-2-4



Flame Retardancy
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1



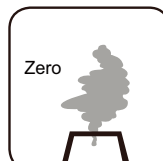
Low Toxicity
NES 02-713/NF C 20-454



Low Corrosivity
IEC60754-2
EN50267-2-2/3
NF C 32-074

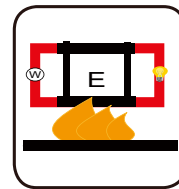


Low Smoke Emission
IEC 61034-1&2
EN 50268-1&2/NF C32-073



Zero

Halogen Free
IEC60754-1
EN50267-2-1



Functional Integrity
DIN 4102-12