

INSTRUMENTATION CABLES AS PER BS EN 50288-7 (CU/XLPE/IS/OS/LSZH/LC/LSZH/SWA/LSZH)

APPLICATION

Lead sheath instrumentation cables provide robust mechanical protection and durability, ideal for industrial and commercial applications. These cables ensure reliable transmission of analogue signals in harsh environments, including chemical, petrochemical, oil & gas, power plants, and marine settings. They offer enhanced protection against chemical exposure, vibration, moisture, and extreme temperatures. Especially recommended for use in hazardous or confined spaces such as control rooms, tunnels, and public buildings where fire safety and low toxic emissions are critical. The lead sheath also shields against electromagnetic interference, ensuring consistent performance and signal integrity.

CONSTRUCTION

Conductor:	Stranded (Class 2) Annealed Plain Copper Conductor to BS EN 60228
Insulation:	Cross linked polyethylene (XLPE)
Insulation Color:	Multi Pair: Black & White with number printed on each cores. Multi Triad: Black, White & Red with number printed on each cores. Other colors are available upon request or as per BS EN 50288-7.
Pair / Triad:	Uniformly twisted insulated conductors with suitable twists per meter.
Individual Screen & Drain Wire:	Aluminum backed Mylar tape (25µm) (AL-PET Foil) is applied over each pair / triad with 100% coverage and an overlap of 25% with metal side, in contact with a stranded tinned copper drain wire of size 0.5 mm ² (Class 2). All pair shields are electrically isolated from each other.
Assembly:	The required number of screened pairs / triads are assembled together with non-hygroscopic fillers (if required) and wrapped with a binder tape.
Overall Screen & Drain Wire:	Aluminum backed Mylar tape (25µm) (AL-PET-Foil) is applied over assembly with 100% coverage and an overlap of 25% with metal side in contact with a stranded tinned copper drain wire of size 0.5 mm ² (class 2).
Inner Sheath:	Extruded Low Smoke Zero Halogen (LSZH) in Black colour. Other colors are available upon request.
Lead Covering:	Extruded Lead Alloy Sheath as per BS EN 50307
Bedding:	Extruded Low Smoke Zero Halogen (LSZH) in Black colour. Other colors are available upon request.
Armoring:	A serving of single layer of round galvanized steel wires is applied as per BS EN 10257-1.
Outer Sheath:	Extruded Low Smoke Zero Halogen (LSZH) in Black colour. Other colors are available upon request.



Printing Text on the Outer Sheath: INSTRUMENTATION CABLE CU/XLPE/IS/OS/LSZH/LC/LSZH/
SWA/LSZH NO OF PAIRS / TRIADS X 2 / 3 X...MM2 500 V
BS EN 50288-7 TEKAB YEAR MADE IN UAE LENGTH METER
MARKING

TECHNICAL DATA

Operating Temperature: During Normal Operation - 90°C
During Short Circuit Condition - 250°C

Voltage Rating: 500V

Voltage Withstand: 2000 V a.c. r.m.s. for 1 minutes

Insulation Resistance MΩ/km: ≥ 1000

Mutual Capacitance nf/km: < 150

Inductance to resistance ratio (L/R) μH/Ω
< 25 (up to 1mm²)
< 40 (1.5 mm²)
< 60 (2.5 mm²)

Halogen Acid Gas Emission: 0.5% (BS EN 60754-1)

Smoke Emission: 60% (BS EN 61034-2)

Flame Retardant Test IEC 60332-3-24 (CAT C), IEC 60332-1-2

* Solid (Class-1) / Flexible (Class-5), Tinned / Thermocouple conductor can be provided upon request.

** Flame Retardant Cross linked polyethylene (FR-XLPE) can be provided upon request.

*** Screening: - Copper Tape / CU-PET tape / Braiding & any other drain wire size can be provided upon request.

**** Other special sheath materials are also available with Flame Retardant: - IEC 60332-3-22 (CAT A), UV / Sunlight Resistant, Oil Resistant, Anti-Termite, Anti-Rodent.

- Construction in core formation also can be provided upon request.
- 300V or any customized voltage grade rated cables up to 600/1000V can be provided upon request.

SERIAL NO.	TEKAB CODE	NO. OF PAIRS (P) / TRIADS (T) X CONDUCTOR SIZE (No. x sq.mm)	NO. OF STRANDS	MINIMUM INSULATION THICKNESS (mm)	APPROX. OVERALL DIAMETER (mm)	APPROX. WEIGHT (kg/km)
1	XA8A7Z1LZ1Z2Z1	2P X 0.5	7	0.44	20	1275
2	XA8A7Z1LZ1Z2Z1	5P X 0.5	7	0.44	24	1750
3	XA8A7Z1LZ1Z2Z1	10P X 0.5	7	0.44	28	2325
4	XA8A7Z1LZ1Z2Z1	12P X 0.5	7	0.44	29	2524
5	XA8A7Z1LZ1Z2Z1	16P X 0.5	7	0.44	32	2900
6	XA8A7Z1LZ1Z2Z1	20P X 0.5	7	0.44	35.5	3600
7	XA8A7Z1LZ1Z2Z1	2P X 0.75	7	0.44	22	1500
8	XA8A7Z1LZ1Z2Z1	5P X 0.75	7	0.44	25	1975
9	XA8A7Z1LZ1Z2Z1	10P X 0.75	7	0.44	29.5	2575
10	XA8A7Z1LZ1Z2Z1	12P X 0.75	7	0.44	31	2800

SERIAL NO.	TEKAB CODE	NO. OF PAIRS (P) / TRIADS (T) X CONDUCTOR SIZE (No. x sq.mm)	NO. OF STRANDS	MINIMUM INSULATION THICKNESS (mm)	APPROX. OVERALL DIAMETER (mm)	APPROX. WEIGHT (kg/km)
11	XA8A7Z1LZ1Z2Z1	16P X 0.75	7	0.44	35.5	3400
12	XA8A7Z1LZ1Z2Z1	20P X 0.75	7	0.44	38	4100
13	XA8A7Z1LZ1Z2Z1	2P X 1.0	7	0.44	22.5	1575
14	XA8A7Z1LZ1Z2Z1	5P X 1.0	7	0.44	26	2075
15	XA8A7Z1LZ1Z2Z1	10P X 1.0	7	0.44	30.5	2750
16	XA8A7Z1LZ1Z2Z1	12P X 1.0	7	0.44	33	3225
17	XA8A7Z1LZ1Z2Z1	16P X 1.0	7	0.44	37	3900
18	XA8A7Z1LZ1Z2Z1	20P X 1.0	7	0.44	39.5	4450
19	XA8A7Z1LZ1Z2Z1	2P X 1.5	7	0.44	23	1700
20	XA8A7Z1LZ1Z2Z1	5P X 1.5	7	0.44	27	2275
21	XA8A7Z1LZ1Z2Z1	10P X 1.5	7	0.44	33	3250
22	XA8A7Z1LZ1Z2Z1	12P X 1.5	7	0.44	36	3700
23	XA8A7Z1LZ1Z2Z1	16P X 1.5	7	0.44	39	4400
24	XA8A7Z1LZ1Z2Z1	20P X 1.5	7	0.44	43	5175
25	XA8A7Z1LZ1Z2Z1	2P X 2.5	7	0.53	26	2025
26	XA8A7Z1LZ1Z2Z1	5P X 2.5	7	0.53	31	2725
27	XA8A7Z1LZ1Z2Z1	10P X 2.5	7	0.53	38	4200
28	XA8A7Z1LZ1Z2Z1	12P X 2.5	7	0.53	41.5	4825
29	XA8A7Z1LZ1Z2Z1	16P X 2.5	7	0.53	47	6250
30	XA8A7Z1LZ1Z2Z1	20P X 2.5	7	0.53	51.5	7350
31	XA8A7Z1LZ1Z2Z1	2T X 0.5	7	0.44	21	1350
32	XA8A7Z1LZ1Z2Z1	5T X 0.5	7	0.44	24.5	1875
33	XA8A7Z1LZ1Z2Z1	10T X 0.5	7	0.44	29	2525
34	XA8A7Z1LZ1Z2Z1	12T X 0.5	7	0.44	30.5	2750
35	XA8A7Z1LZ1Z2Z1	16T X 0.5	7	0.44	34	3450
36	XA8A7Z1LZ1Z2Z1	20T X 0.5	7	0.44	37	4000
37	XA8A7Z1LZ1Z2Z1	2T X 0.75	7	0.44	22.5	1600
38	XA8A7Z1LZ1Z2Z1	5T X 0.75	7	0.44	26	2125
39	XA8A7Z1LZ1Z2Z1	10T X 0.75	7	0.44	31	2800
40	XA8A7Z1LZ1Z2Z1	12T X 0.75	7	0.44	33	3300
41	XA8A7Z1LZ1Z2Z1	16T X 0.75	7	0.44	37	4000
42	XA8A7Z1LZ1Z2Z1	20T X 0.75	7	0.44	40	4575
43	XA8A7Z1LZ1Z2Z1	2T X 1.0	7	0.44	23	1675
44	XA8A7Z1LZ1Z2Z1	5T X 1.0	7	0.44	27	2250



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45	XA8A7Z1LZ1Z2Z1	10T X 1.0	7	0.44	32.5	3225
46	XA8A7Z1LZ1Z2Z1	12T X 1.0	7	0.44	35	3625
47	XA8A7Z1LZ1Z2Z1	16T X 1.0	7	0.44	38.5	3675
48	XA8A7Z1LZ1Z2Z1	20T X 1.0	7	0.44	42	5150
49	XA8A7Z1LZ1Z2Z1	2T X 1.5	7	0.44	24	1800
50	XA8A7Z1LZ1Z2Z1	5T X 1.5	7	0.44	28.5	2475
51	XA8A7Z1LZ1Z2Z1	10T X 1.5	7	0.44	35	3675
52	XA8A7Z1LZ1Z2Z1	12T X 1.5	7	0.44	37	4150
53	XA8A7Z1LZ1Z2Z1	16T X 1.5	7	0.44	42	5100
54	XA8A7Z1LZ1Z2Z1	20T X 1.5	7	0.44	46.5	5350
55	XA8A7Z1LZ1Z2Z1	2T X 2.5	7	0.53	27	2200
56	XA8A7Z1LZ1Z2Z1	5T X 2.5	7	0.53	32.5	3200
57	XA8A7Z1LZ1Z2Z1	10T X 2.5	7	0.53	40.5	4800
58	XA8A7Z1LZ1Z2Z1	12T X 2.5	7	0.53	44.5	5900
59	XA8A7Z1LZ1Z2Z1	16T X 2.5	7	0.53	50	7200
60	XA8A7Z1LZ1Z2Z1	20T X 2.5	7	0.53	54.5	8550