

TIOI 250V, TICI 250V
Armoured Instrumentation Cable

Cu/XLPE/HF/CWB/CWB or SWB/HF

Max. conductor temperature: 90°C



Application:

- Used in the ships for instrumentation and communication. Also can be used for other indoor and outdoor applications.

Standard:

- | | |
|------------------|----------------------------|
| ■ IEC 60092-376 | Design guidelines |
| ■ IEC 60228 | Conductor |
| ■ IEC 60092-360 | Insulation & sheath |
| ■ IEC 60332-1-2 | Flame retardant properties |
| ■ IEC 60332-3-22 | Flame retardant properties |
| ■ IEC 60754-1,2 | Halogen free properties |
| ■ IEC 61034-1,2 | Smoke emission properties |

Construction:

- | | |
|----------------|---|
| ■ Conductor | Plain or tinned annealed copper, IEC 60228 class 2 or class 5 |
| ■ Insulation | Halogen free cross-linked polyethylene XLPE, IEC 60092-360 |
| ■ Laying up | Laying up of pairs/triples/quads |
| ■ Inner sheath | Flame retardant halogen free polyolefin compound, SHF1, IEC 60092-360 |
| ■ Armour | Plain/tinned copper wire braid or galvanised steel wire braid |
| ■ Outer sheath | Flame retardant halogen free polyolefin compound, SHF1, IEC 60092-360 |

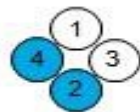
Electrical characteristics:

- Capacitance, nom. 800Hz
- Loop Inductance, nom.
- Insulation resistance at 20 °C

Unit	0.75 mm ²
nF/km	24.5
mH/km	0.7
MOhm.km	≥3670

Pair identification:

- The pairs have the following number identification:
 - Pair no. 1 core no. 1 & 2
 - Pair no. 2 core no. 3 & 4
 - Pair no. 3 core no. 5 & 6
 - Pair no. 4 etc
- Triple cable is identified with no. 1, 2 and 3.
- Quad cable has the following identification



TIOI 250V, TICI 250V

Armoured Instrumentation Cable

Cu/XLPE/HF/CWB or SWB/HF

Max. conductor temperature: 90°C

Range and dimensions

Number of pairs x conductor cross-section	Conductor diameter	Insulation thickness	Inner covering diameter	Armour wire diameter	Outer sheath thickness	Outer sheath diameter	Resistance at 20° C Max.	Weight Approx.
mm ²	mm	mm	mm	mm	mm	mm	Ohm/km	kg/km
1 x 2 x 0.75	1.1	0.5	1.0	0.2	0.8	9.7 ± 0.5	24.5	130
2 x 2 x 0.75	1.1	0.5	1.1	0.3	0.9	13.4 ± 0.8	24.8	220
3 x 2 x 0.75	1.1	0.5	1.1	0.3	0.9	14.0 ± 0.8	24.8	250
4 x 2 x 0.75	1.1	0.5	1.2	0.3	0.9	15.0 ± 0.8	24.8	290
7 x 2 x 0.75	1.1	0.5	1.2	0.3	1.0	17.2 ± 0.8	24.8	390
8 x 2 x 0.75	1.1	0.5	1.3	0.3	1.0	18.3 ± 0.8	24.8	440
10 x 2 x 0.75	1.1	0.5	1.4	0.3	1.1	20.4 ± 1	24.8	530
12 x 2 x 0.75	1.1	0.5	1.4	0.3	1.1	21.1 ± 1	24.8	580
14 x 2 x 0.75	1.1	0.5	1.4	0.3	1.1	21.8 ± 1	24.8	630
16 x 2 x 0.75	1.1	0.5	1.5	0.3	1.1	23.3 ± 1	24.8	710
19 x 2 x 0.75	1.1	0.5	1.5	0.3	1.1	24.2 ± 1	24.8	790
24 x 2 x 0.75	1.1	0.5	1.6	0.3	1.2	27.2 ± 1	24.8	960
30 x 2 x 0.75	1.1	0.5	1.7	0.3	1.3	30.1 ± 1	24.8	1170
32 x 2 x 0.75	1.1	0.5	1.7	0.3	1.3	30.7 ± 1	24.8	1220
37 x 2 x 0.75	1.1	0.5	1.8	0.3	1.3	32.1 ± 1	24.8	1360
1 x 2 x 1	1.3	0.5	1.0	0.2	0.8	10.1 ± 0.8	18.1	150
2 x 2 x 1	1.3	0.5	1.1	0.3	0.9	14.2 ± 0.8	18.3	250
3 x 2 x 1	1.3	0.5	1.2	0.3	0.9	15.1 ± 0.8	18.3	290
4 x 2 x 1	1.3	0.5	1.2	0.3	0.9	15.8 ± 0.8	18.3	330
7 x 2 x 1	1.3	0.5	1.3	0.3	1.0	18.4 ± 0.8	18.3	460
8 x 2 x 1	1.3	0.5	1.3	0.3	1.0	19.4 ± 0.8	18.3	510
10 x 2 x 1	1.3	0.5	1.4	0.3	1.1	21.7 ± 1	18.3	610
12 x 2 x 1	1.3	0.5	1.4	0.3	1.1	22.4 ± 1	18.3	680
14 x 2 x 1	1.3	0.5	1.5	0.3	1.1	23.3 ± 1	18.3	750
16 x 2 x 1	1.3	0.5	1.5	0.3	1.2	25.0 ± 1	18.3	840
19 x 2 x 1	1.3	0.5	1.6	0.3	1.2	26.1 ± 1	18.3	950
24 x 2 x 1	1.3	0.5	1.7	0.3	1.3	29.4 ± 1	18.3	1170
30 x 2 x 1	1.3	0.5	1.8	0.3	1.3	32.5 ± 1	18.3	1410
32 x 2 x 1	1.3	0.5	1.8	0.3	1.4	33.2 ± 1	18.3	1480
37 x 2 x 1	1.3	0.5	1.9	0.4	1.4	35.2 ± 1.2	18.3	1730
1 x 2 x 1.5	1.6	0.6	1.0	0.2	0.8	11.1 ± 0.8	12.1	180
2 x 2 x 1.5	1.6	0.6	1.2	0.3	1.0	16.1 ± 0.8	12.2	310
3 x 2 x 1.5	1.6	0.6	1.2	0.3	1.0	16.9 ± 0.8	12.2	360
4 x 2 x 1.5	1.6	0.6	1.3	0.3	1.0	18.0 ± 0.8	12.2	430
7 x 2 x 1.5	1.6	0.6	1.4	0.3	1.1	21.3 ± 1	12.2	620
8 x 2 x 1.5	1.6	0.6	1.4	0.3	1.1	22.5 ± 1	12.2	680
10 x 2 x 1.5	1.6	0.6	1.5	0.3	1.2	25.2 ± 1	12.2	820
12 x 2 x 1.5	1.6	0.6	1.6	0.3	1.2	26.3 ± 1	12.2	920



TIOI 250V, TICI 250V

Armoured Instrumentation Cable

Cu/XLPE/HF/CWB or SWB/HF

Max. conductor temperature: 90°C

Range and dimensions

Number of pairs x conductor cross-section	Conductor diameter	Insulation thickness	Inner covering diameter	Armour wire diameter	Outer sheath thickness	Outer sheath diameter	Resistance at 20° C Max.	Weight Approx.
mm ²	mm	mm	mm	mm	mm	mm	Ohm/km	kg/km
14 x 2 x 1.5	1.6	0.6	1.6	0.3	1.2	27.1 ± 1	12.2	1010
16 x 2 x 1.5	1.6	0.6	1.7	0.3	1.3	29.3 ± 1	12.2	1150
19 x 2 x 1.5	1.6	0.6	1.7	0.3	1.3	30.4 ± 1	12.2	1290
24 x 2 x 1.5	1.6	0.6	1.9	0.4	1.4	34.9 ± 1	12.2	1680
30 x 2 x 1.5	1.6	0.6	2.0	0.4	1.5	38.8 ± 1.2	12.2	2030
32 x 2 x 1.5	1.6	0.6	2.0	0.4	1.5	39.4 ± 1.2	12.2	2120
37 x 2 x 1.5	1.6	0.6	2.1	0.4	1.6	41.5 ± 1.2	12.2	2390
1 x 3 x 0.75	1.1	0.5	1.0	0.2	0.8	10.0 ± 0.5	24.5	150
2 x 3 x 0.75	1.1	0.5	1.1	0.3	0.9	14.3 ± 0.8	24.8	260
3 x 3 x 0.75	1.1	0.5	1.2	0.3	0.9	15.1 ± 0.8	24.8	300
4 x 3 x 0.75	1.1	0.5	1.2	0.3	1.0	16.2 ± 0.8	24.8	360
7 x 3 x 0.75	1.1	0.5	1.3	0.3	1.0	19.5 ± 0.8	24.8	520
8 x 3 x 0.75	1.1	0.5	1.4	0.3	1.1	21.0 ± 1	24.8	590
10 x 3 x 0.75	1.1	0.5	1.5	0.3	1.1	23.4 ± 1	24.8	700
12 x 3 x 0.75	1.1	0.5	1.5	0.3	1.2	24.7 ± 1	24.8	790
14 x 3 x 0.75	1.1	0.5	1.5	0.3	1.2	25.5 ± 1	24.8	870
16 x 3 x 0.75	1.1	0.5	1.6	0.3	1.2	27.0 ± 1	24.8	970
19 x 3 x 0.75	1.1	0.5	1.7	0.3	1.3	29.2 ± 1	24.8	1130
24 x 3 x 0.75	1.1	0.5	1.8	0.3	1.3	32.0 ± 1	24.8	1350
30 x 3 x 0.75	1.1	0.5	1.9	0.4	1.4	35.6 ± 1.2	24.8	1710
32 x 3 x 0.75	1.1	0.5	1.9	0.4	1.4	36.7 ± 1.2	24.8	1800
37 x 3 x 0.75	1.1	0.5	2.0	0.4	1.5	38.6 ± 1.2	24.8	2020
1 x 3 x 1	1.3	0.5	1.0	0.2	0.8	10.5 ± 0.8	18.1	170
2 x 3 x 1	1.3	0.5	1.2	0.3	0.9	15.4 ± 0.8	18.3	300
3 x 3 x 1	1.3	0.5	1.2	0.3	1.0	16.2 ± 0.8	18.3	350
4 x 3 x 1	1.3	0.5	1.3	0.3	1.0	17.5 ± 0.8	18.3	420
7 x 3 x 1	1.3	0.5	1.4	0.3	1.1	21.3 ± 1	18.3	630
8 x 3 x 1	1.3	0.5	1.4	0.3	1.1	22.5 ± 1	18.3	690
10 x 3 x 1	1.3	0.5	1.5	0.3	1.2	25.3 ± 1	18.3	840
12 x 3 x 1	1.3	0.5	1.6	0.3	1.2	26.7 ± 1	18.3	950
14 x 3 x 1	1.3	0.5	1.6	0.3	1.2	27.7 ± 1	18.3	1050
19 x 3 x 1	1.3	0.5	1.8	0.3	1.3	31.7 ± 1	18.3	1360
24 x 3 x 1	1.3	0.5	1.9	0.4	1.4	35.3 ± 1.2	18.3	1730



TIOI 250V, TICI 250V

Armoured Instrumentation Cable

Cu/XLPE/HF/CWB or SWB/HF

Max. conductor temperature: 90°C

Range and dimensions

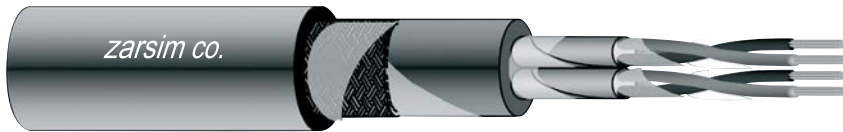
Number of pairs x conductor cross-section	Conductor diameter	Insulation thickness	Inner covering diameter	Armour wire diameter	Outer sheath thickness	Outer sheath diameter	Resistance at 20° C Max.	Weight Approx.
mm ²	mm	mm	mm	mm	mm	mm	Ohm/km	kg/km
30 x 3 x 1	1.3	0.5	2.0	0.4	1.5	38.9 ± 1.2	18.3	2080
32 x 3 x 1	1.3	0.5	2.0	0.4	1.5	40.1 ± 1.2	18.3	2190
37 x 3 x 1	1.3	0.5	2.1	0.4	1.6	42.2 ± 1.2	18.3	2470
1 x 3 x 1.5	1.6	0.6	1.1	0.2	0.9	11.7 ± 0.8	12.1	210
2 x 3 x 1.5	1.6	0.6	1.2	0.3	1.0	17.1 ± 0.8	12.2	370
3 x 3 x 1.5	1.6	0.6	1.3	0.3	1.0	18.2 ± 0.8	12.2	450
4 x 3 x 1.5	1.6	0.6	1.3	0.3	1.0	19.6 ± 0.8	12.2	540
7 x 3 x 1.5	1.6	0.6	1.5	0.3	1.2	24.5 ± 1	12.2	840
8 x 3 x 1.5	1.6	0.6	1.6	0.3	1.2	26.1 ± 1	12.2	940
10 x 3 x 1.5	1.6	0.6	1.7	0.3	1.3	29.4 ± 1	12.2	1130
12 x 3 x 1.5	1.6	0.6	1.7	0.3	1.3	30.8 ± 1	12.2	1270
14 x 3 x 1.5	1.6	0.6	1.8	0.3	1.3	32.2 ± 1	12.2	1430



TIOI(c) 250V, TICI(c) 250V Armoured Instrumentation Cable

Cu/XLPE/OSCR/HF/CWB or SWB/HF

Max. conductor temperature: 90°C



Application:

- Used in the ships for instrumentation and communication. Also can be used for other indoor and outdoor applications

Standard:

- | | |
|------------------|----------------------------|
| ■ IEC 60092-376 | Design guidelines |
| ■ IEC 60228 | Conductor |
| ■ IEC 60092-360 | Insulation & sheath |
| ■ IEC 60332-1-2 | Flame retardant properties |
| ■ IEC 60332-3-22 | Flame retardant properties |
| ■ IEC 60754-1,2 | Halogen free properties |
| ■ IEC 61034-1,2 | Smoke emission properties |

Construction:

- | | |
|----------------|---|
| ■ Conductor | Plain or tinned annealed copper, IEC 60228 class 2 or class 5 |
| ■ Insulation | Halogen free cross-linked polyethylene XLPE, IEC 60092-360 |
| ■ Laying up | Laying up of pairs/triples/quads |
| ■ Inner sheath | Collective screen (Al/PET + tinned copper drain wire) |
| ■ Armour | Flame retardant halogen free polyolefin compound, SHF1, IEC 60092-360 |
| ■ Bedding | Plain/tinned copper wire braid or galvanised steel wire braid |
| ■ Outer sheath | Flame retardant halogen free polyolefin compound, SHF1, IEC 60092-360 |

Electrical characteristics:

- Capacitance, nom. 800Hz
- Loop Inductance, nom.
- Insulation resistance at 20 °C

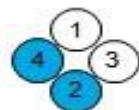
Unit	0.75 mm ²
nF/km	24.5
mH/km	0.7
MOhm.km	≥3670

Pair identification:

- The pairs have the following number identification:
 - Pair no. 1 core no. 1 & 2
 - Pair no. 2 core no. 3 & 4
 - Pair no. 3 core no. 5 & 6
 - Pair no. 4 etc

- Triple cable is identified with no. 1, 2 and 3.

- Quad cable has the following identification



TIOI(c) 250V, TICI(c) 250V Cu/XLPE/OSCR/HF/CWB or SWB/HF

Armoured Instrumentation Cable Max. conductor temperature: 90°C

Range and dimensions

Number of pairs x conductor cross-section	Conductor diameter	Insulation thickness	Inner covering diameter	Armour wire diameter	Outer sheath thickness	Outer sheath diameter	Resistance at 20°C Max.	Weight Approx.
mm ²	mm	mm	mm	mm	mm	mm	Ohm/km	kg/km
1 x 2 x 0.75	1.1	0.5	1.0	0.2	0.8	9.8 ± 0.5	24.5	140
2 x 2 x 0.75	1.1	0.5	1.1	0.3	0.9	13.5 ± 0.8	24.8	230
3 x 2 x 0.75	1.1	0.5	1.1	0.3	0.9	14.1 ± 0.8	24.8	260
4 x 2 x 0.75	1.1	0.5	1.2	0.3	0.9	15.1 ± 0.8	24.8	300
7 x 2 x 0.75	1.1	0.5	1.2	0.3	1.0	17.3 ± 0.8	24.8	400
8 x 2 x 0.75	1.1	0.5	1.3	0.3	1.0	18.4 ± 0.8	24.8	450
10 x 2 x 0.75	1.1	0.5	1.4	0.3	1.1	20.5 ± 1	24.8	540
12 x 2 x 0.75	1.1	0.5	1.4	0.3	1.1	21.2 ± 1	24.8	590
14 x 2 x 0.75	1.1	0.5	1.4	0.3	1.1	21.9 ± 1	24.8	640
16 x 2 x 0.75	1.1	0.5	1.5	0.3	1.1	23.4 ± 1	24.8	720
19 x 2 x 0.75	1.1	0.5	1.5	0.3	1.1	24.3 ± 1	24.8	800
24 x 2 x 0.75	1.1	0.5	1.6	0.3	1.2	27.3 ± 1	24.8	970
30 x 2 x 0.75	1.1	0.5	1.7	0.3	1.3	30.2 ± 1	24.8	1180
32 x 2 x 0.75	1.1	0.5	1.7	0.3	1.3	30.8 ± 1	24.8	1230
37 x 2 x 0.75	1.1	0.5	1.8	0.3	1.3	32.2 ± 1	24.8	1370
1 x 2 x 1	1.3	0.5	1.0	0.2	0.8	10.2 ± 0.8	18.1	160
2 x 2 x 1	1.3	0.5	1.1	0.3	0.9	14.3 ± 0.8	18.3	260
3 x 2 x 1	1.3	0.5	1.2	0.3	0.9	15.2 ± 0.8	18.3	300
4 x 2 x 1	1.3	0.5	1.2	0.3	0.9	15.9 ± 0.8	18.3	340
7 x 2 x 1	1.3	0.5	1.3	0.3	1.0	18.5 ± 0.8	18.3	470
8 x 2 x 1	1.3	0.5	1.3	0.3	1.0	19.5 ± 0.8	18.3	520
10 x 2 x 1	1.3	0.5	1.4	0.3	1.1	21.8 ± 1	18.3	620
12 x 2 x 1	1.3	0.5	1.4	0.3	1.1	22.5 ± 1	18.3	690
14 x 2 x 1	1.3	0.5	1.5	0.3	1.1	23.4 ± 1	18.3	760
16 x 2 x 1	1.3	0.5	1.5	0.3	1.2	25.1 ± 1	18.3	850
19 x 2 x 1	1.3	0.5	1.6	0.3	1.2	26.2 ± 1	18.3	960
24 x 2 x 1	1.3	0.5	1.7	0.3	1.3	29.5 ± 1	18.3	1180
30 x 2 x 1	1.3	0.5	1.8	0.3	1.3	32.6 ± 1	18.3	1420
32 x 2 x 1	1.3	0.5	1.8	0.3	1.4	33.3 ± 1	18.3	1490
37 x 2 x 1	1.3	0.5	1.9	0.4	1.4	35.3 ± 1.2	18.3	1740
1 x 2 x 1.5	1.6	0.6	1.0	0.2	0.8	11.2 ± 0.8	12.1	190
2 x 2 x 1.5	1.6	0.6	1.2	0.3	1.0	16.2 ± 0.8	12.2	320
3 x 2 x 1.5	1.6	0.6	1.2	0.3	1.0	17.0 ± 0.8	12.2	370
4 x 2 x 1.5	1.6	0.6	1.3	0.3	1.0	18.1 ± 0.8	12.2	440
7 x 2 x 1.5	1.6	0.6	1.4	0.3	1.1	21.4 ± 1	12.2	630
8 x 2 x 1.5	1.6	0.6	1.4	0.3	1.1	22.6 ± 1	12.2	690
10 x 2 x 1.5	1.6	0.6	1.5	0.3	1.2	25.3 ± 1	12.2	830
12 x 2 x 1.5	1.6	0.6	1.6	0.3	1.2	26.4 ± 1	12.2	930



TIOI(c) 250V, TICI(c) 250V Armoured Instrumentation Cable

Cu/XLPE/OSCR/HF/CWB or SWB/HF

Max. conductor temperature: 90°C

Range and dimensions

Number of pairs x conductor cross-section	Conductor diameter	Insulation thickness	Inner covering diameter	Armour wire diameter	Outer sheath thickness	Outer sheath diameter	Resistance at 20°C Max.	Weight Approx.
mm ²	mm	mm	mm	mm	mm	mm	Ohm/km	kg/km
14 x 2 x 1.5	1.6	0.6	1.6	0.3	1.2	27.2 ± 1	12.2	1020
16 x 2 x 1.5	1.6	0.6	1.7	0.3	1.3	29.4 ± 1	12.2	1160
19 x 2 x 1.5	1.6	0.6	1.7	0.3	1.3	30.5 ± 1	12.2	1300
24 x 2 x 1.5	1.6	0.6	1.9	0.4	1.4	35.0 ± 1	12.2	1690
30 x 2 x 1.5	1.6	0.6	2.0	0.4	1.5	38.9 ± 1.2	12.2	2040
32 x 2 x 1.5	1.6	0.6	2.0	0.4	1.5	39.5 ± 1.2	12.2	2130
37 x 2 x 1.5	1.6	0.6	2.1	0.4	1.6	41.6 ± 1.2	12.2	2400
1 x 3 x 0.75	1.1	0.5	1.0	0.2	0.8	10.1 ± 0.8	24.5	160
2 x 3 x 0.75	1.1	0.5	1.1	0.3	0.9	14.4 ± 0.8	24.8	270
3 x 3 x 0.75	1.1	0.5	1.2	0.3	0.9	15.2 ± 0.8	24.8	310
4 x 3 x 0.75	1.1	0.5	1.2	0.3	1.0	16.3 ± 0.8	24.8	370
7 x 3 x 0.75	1.1	0.5	1.3	0.3	1.0	19.6 ± 0.8	24.8	530
8 x 3 x 0.75	1.1	0.5	1.4	0.3	1.1	21.1 ± 1	24.8	600
10 x 3 x 0.75	1.1	0.5	1.5	0.3	1.1	23.5 ± 1	24.8	710
12 x 3 x 0.75	1.1	0.5	1.5	0.3	1.2	24.8 ± 1	24.8	800
14 x 3 x 0.75	1.1	0.5	1.5	0.3	1.2	25.6 ± 1	24.8	880
16 x 3 x 0.75	1.1	0.5	1.6	0.3	1.2	27.1 ± 1	24.8	980
19 x 3 x 0.75	1.1	0.5	1.7	0.3	1.3	29.3 ± 1	24.8	1140
24 x 3 x 0.75	1.1	0.5	1.8	0.3	1.3	32.1 ± 1	24.8	1360
30 x 3 x 0.75	1.1	0.5	1.9	0.4	1.4	35.7 ± 1.2	24.8	1720
32 x 3 x 0.75	1.1	0.5	1.9	0.4	1.4	36.8 ± 1.2	24.8	1810
37 x 3 x 0.75	1.1	0.5	2.0	0.4	1.5	38.7 ± 1.2	24.8	2030
1 x 3 x 1	1.3	0.5	1.0	0.2	0.8	10.6 ± 0.8	18.1	180
2 x 3 x 1	1.3	0.5	1.2	0.3	0.9	15.5 ± 0.8	18.3	310
3 x 3 x 1	1.3	0.5	1.2	0.3	1.0	16.3 ± 0.8	18.3	360
4 x 3 x 1	1.3	0.5	1.3	0.3	1.0	17.6 ± 0.8	18.3	430
7 x 3 x 1	1.3	0.5	1.4	0.3	1.1	21.4 ± 1	18.3	640
8 x 3 x 1	1.3	0.5	1.4	0.3	1.1	22.6 ± 1	18.3	700
10 x 3 x 1	1.3	0.5	1.5	0.3	1.2	25.4 ± 1	18.3	850
12 x 3 x 1	1.3	0.5	1.6	0.3	1.2	26.8 ± 1	18.3	960
14 x 3 x 1	1.3	0.5	1.6	0.3	1.2	27.8 ± 1	18.3	1060
16 x 3 x 1	1.3	0.5	1.7	0.3	1.3	29.6 ± 1	18.3	1190
19 x 3 x 1	1.3	0.5	1.8	0.3	1.3	31.8 ± 1	18.3	1370
24 x 3 x 1	1.3	0.5	1.9	0.4	1.4	35.4 ± 1.2	18.3	1740
30 x 3 x 1	1.3	0.5	2.0	0.4	1.5	39.0 ± 1.2	18.3	2090
32 x 3 x 1	1.3	0.5	2.0	0.4	1.5	40.2 ± 1.2	18.3	2200
37 x 3 x 1	1.3	0.5	2.1	0.4	1.6	42.3 ± 1.2	18.3	2480



TIOI(c) 250V, TICI(c) 250V
Armoured Instrumentation Cable

Cu/XLPE/OSCR/HF/CWB or SWB/HF

Max. conductor temperature: 90°C

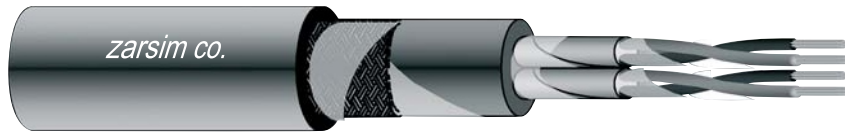
Range and dimensions

Number of pairs x conductor cross-section	Conductor diameter	Insulation thickness	Inner covering diameter	Armour wire diameter	Outer sheath thickness	Outer sheath diameter	Resistance at 20°C Max.	Weight Approx.
mm ²	mm	mm	mm	mm	mm	mm	Ohm/km	kg/km
1 x 3 x 1.5	1.6	0.6	1.1	0.2	0.9	11.8 ± 0.8	12.1	220
2 x 3 x 1.5	1.6	0.6	1.2	0.3	1.0	17.2 ± 0.8	12.2	380
3 x 3 x 1.5	1.6	0.6	1.3	0.3	1.0	18.3 ± 0.8	12.2	460
4 x 3 x 1.5	1.6	0.6	1.3	0.3	1.0	19.7 ± 0.8	12.2	550
7 x 3 x 1.5	1.6	0.6	1.5	0.3	1.2	24.6 ± 1	12.2	850
8 x 3 x 1.5	1.6	0.6	1.6	0.3	1.2	26.2 ± 1	12.2	950
10 x 3 x 1.5	1.6	0.6	1.7	0.3	1.3	29.5 ± 1	12.2	1140
12 x 3 x 1.5	1.6	0.6	1.7	0.3	1.3	30.9 ± 1	12.2	1280
14 x 3 x 1.5	1.6	0.6	1.8	0.3	1.3	32.3 ± 1	12.2	1440
16 x 3 x 1.5	1.6	0.6	1.8	0.3	1.4	34.2 ± 1	12.2	1610
19 x 3 x 1.5	1.6	0.6	1.9	0.4	1.5	37.3 ± 1.2	12.2	1940
24 x 3 x 1.5	1.6	0.6	2.1	0.4	1.5	41.1 ± 1.2	12.2	2360
30 x 3 x 1.5	1.6	0.6	2.2	0.4	1.6	45.3 ± 1.2	12.2	2850
32 x 3 x 1.5	1.6	0.6	2.3	0.4	1.7	47.1 ± 1.2	12.2	3050
37 x 3 x 1.5	1.6	0.6	2.4	0.4	1.7	49.3 ± 1.2	12.2	3410



TIOI(i & c) 250V, TICI(i & c) 250V Cu/XLPE/ISCR/OSCR/HF/CWB or SWB/HF
Armoured Instrumentation Cable

Max. conductor temperature: 90°C



Application:

- Used in the ships for instrumentation and communication. Also can be used for other indoor and outdoor applications

Standard:

- | | |
|------------------|----------------------------|
| ■ IEC 60092-376 | Design guidelines |
| ■ IEC 60228 | Conductor |
| ■ IEC 60092-360 | Insulation & sheath |
| ■ IEC 60332-1-2 | Flame retardant properties |
| ■ IEC 60332-3-22 | Flame retardant properties |
| ■ IEC 60754-1,2 | Halogen free properties |
| ■ IEC 61034-1,2 | Smoke emission properties |

Construction:

- | | |
|----------------|---|
| ■ Conductor | Plain or tinned annealed copper, IEC 60228 class 2 or class 5 |
| ■ Insulation | Halogen free cross-linked polyethylene XLPE, IEC 60092-360 |
| ■ Screen | Individual screen (Al/PET + tinned copper drain wire) |
| ■ Laying up | Laying up of pairs/triples/quads |
| ■ Screen | Collective screen (Al/PET + tinned copper drain wire) |
| ■ Bedding | Flame retardant halogen free polyolefin compound, SHF1, IEC 60092-360 |
| ■ Armour | Plain/tinned copper wire braid or galvanised steel wire braid |
| ■ Outer sheath | Flame retardant halogen free polyolefin compound, SHF1, IEC 60092-360 |

Electrical characteristics:

- Capacitance, nom. 800Hz
- Loop Inductance, nom.
- Insulation resistance at 20 °C

Unit	0.75mm ²
nF/km	24.5
mH/km	0.7
MOhm.km	≥3670

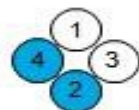
Pair identification:

- The pairs have the following number identification:

■ Pair no. 1	core no. 1 & 2
■ Pair no. 2	core no. 3 & 4
■ Pair no. 3	core no. 5 & 6
■ Pair no. 4	etc

- Triple cable is identified with no. 1, 2 and 3.

- Quad cable has the following identification



TIOI(i & c) 250V, TICI(i & c) 250V Cu/XLPE/ISCR/OSCR/HF/CWB or SWB/HF Armoured Instrumentation Cable

Max. conductor temperature: 90°C

Range and dimensions

Number of pairs x conductor cross-section	Conductor diameter	Insulation thickness	Inner covering diameter	Armour wire diameter	Outer sheath thickness	Outer sheath diameter	Resistance at 20°C Max.	Weight Approx.
mm ²	mm	mm	mm	mm	mm	mm	Ohm/km	kg/km
1 x 2 x 0.75	1.1	0.5	1.0	0.2	0.8	10.1 ± 0.8	24.5	155
2 x 2 x 0.75	1.1	0.5	1.1	0.3	0.9	14.1 ± 0.8	24.8	260
3 x 2 x 0.75	1.1	0.5	1.2	0.3	0.9	15.0 ± 0.8	24.8	300
4 x 2 x 0.75	1.1	0.5	1.2	0.3	1.0	16.1 ± 0.8	24.8	350
7 x 2 x 0.75	1.1	0.5	1.3	0.3	1.0	18.2 ± 0.8	24.8	480
8 x 2 x 0.75	1.1	0.5	1.3	0.3	1.0	19.6 ± 0.8	24.8	540
10 x 2 x 0.75	1.1	0.5	1.4	0.3	1.1	22.1 ± 1	24.8	650
12 x 2 x 0.75	1.1	0.5	1.4	0.3	1.1	22.8 ± 1	24.8	710
14 x 2 x 0.75	1.1	0.5	1.5	0.3	1.1	23.9 ± 1	24.8	790
16 x 2 x 0.75	1.1	0.5	1.5	0.3	1.2	25.5 ± 1	24.8	890
19 x 2 x 0.75	1.1	0.5	1.6	0.3	1.2	26.2 ± 1	24.8	990
24 x 2 x 0.75	1.1	0.5	1.7	0.3	1.3	30.1 ± 1	24.8	1240
30 x 2 x 0.75	1.1	0.5	1.8	0.3	1.3	32.0 ± 1	24.8	1450
32 x 2 x 0.75	1.1	0.5	1.8	0.3	1.3	32.4 ± 1	24.8	1510
37 x 2 x 0.75	1.1	0.5	1.8	0.3	1.4	34.1 ± 1	24.8	1690
1 x 2 x 1	1.3	0.5	1.0	0.2	0.8	10.5 ± 0.8	18.1	160
2 x 2 x 1	1.3	0.5	1.2	0.3	0.9	15.1 ± 0.8	18.3	300
3 x 2 x 1	1.3	0.5	1.2	0.3	0.9	15.8 ± 0.8	18.3	340
4 x 2 x 1	1.3	0.5	1.2	0.3	1.0	16.9 ± 0.8	18.3	400
7 x 2 x 1	1.3	0.5	1.3	0.3	1.0	19.2 ± 0.8	18.3	550
8 x 2 x 1	1.3	0.5	1.4	0.3	1.1	21.1 ± 1	18.3	640
10 x 2 x 1	1.3	0.5	1.5	0.3	1.1	23.6 ± 1	18.3	760
12 x 2 x 1	1.3	0.5	1.5	0.3	1.2	24.5 ± 1	18.3	850
14 x 2 x 1	1.3	0.5	1.5	0.3	1.2	25.6 ± 1	18.3	950
16 x 2 x 1	1.3	0.5	1.6	0.3	1.2	27.3 ± 1	18.3	1060
19 x 2 x 1	1.3	0.5	1.6	0.3	1.2	27.8 ± 1	18.3	1160
24 x 2 x 1	1.3	0.5	1.8	0.3	1.3	32.2 ± 1	18.3	1470
30 x 2 x 1	1.3	0.5	1.8	0.3	1.4	34.2 ± 1	18.3	1740
32 x 2 x 1	1.3	0.5	1.9	0.4	1.4	35.3 ± 1.2	18.3	1910
37 x 2 x 1	1.3	0.5	1.9	0.4	1.5	37.1 ± 1.2	18.3	2140
1 x 2 x 1.5	1.6	0.6	1.0	0.2	0.8	11.5 ± 0.8	12.1	190
2 x 2 x 1.5	1.6	0.6	1.2	0.3	1.0	16.9 ± 0.8	12.2	360
3 x 2 x 1.5	1.6	0.6	1.3	0.3	1.0	17.9 ± 0.8	12.2	430
4 x 2 x 1.5	1.6	0.6	1.3	0.3	1.0	19.2 ± 0.8	12.2	500
7 x 2 x 1.5	1.6	0.6	1.4	0.3	1.1	22.1 ± 1	12.2	710
8 x 2 x 1.5	1.6	0.6	1.5	0.3	1.1	24.1 ± 1	12.2	810
10 x 2 x 1.5	1.6	0.6	1.6	0.3	1.2	27.2 ± 1	12.2	980
12 x 2 x 1.5	1.6	0.6	1.6	0.3	1.2	28.1 ± 1	12.2	1090
14 x 2 x 1.5	1.6	0.6	1.7	0.3	1.3	29.8 ± 1	12.2	1240
16 x 2 x 1.5	1.6	0.6	1.8	0.3	1.3	31.8 ± 1	12.2	1390
19 x 2 x 1.5	1.6	0.6	1.8	0.3	1.3	32.4 ± 1	12.2	1540
24 x 2 x 1.5	1.6	0.6	2.0	0.4	1.5	38.2 ± 1.2	12.2	2040
30 x 2 x 1.5	1.6	0.6	2.1	0.4	1.5	40.5 ± 1.2	12.2	2400
32 x 2 x 1.5	1.6	0.6	2.1	0.4	1.6	41.3 ± 1.2	12.2	2520
37 x 2 x 1.5	1.6	0.6	2.2	0.4	1.6	43.4 ± 1.2	12.2	2820



TIOI(i & c) 250V, TICI(i & c) 250V Cu/XLPE/ISCR/OSCR/HF/CWB or SWB/HF Armoured Instrumentation Cable

Max. conductor temperature: 90°C

Range and dimensions

Number of pairs x conductor cross-section	Conductor diameter	Insulation thickness	Inner covering diameter	Armour wire diameter	Outer sheath thickness	Outer sheath diameter	Resistance at 20°C Max.	Weight Approx.
mm ²	mm	mm	mm	mm	mm	mm	Ohm/km	kg/km
1 x 3 x 0.75	1.1	0.5	1.0	0.2	0.8	10.4 ± 0.8	24.5	170
2 x 3 x 0.75	1.1	0.5	1.2	0.3	0.9	15.0 ± 0.8	24.8	300
3 x 3 x 0.75	1.1	0.5	1.2	0.3	0.9	15.7 ± 0.8	24.8	350
4 x 3 x 0.75	1.1	0.5	1.2	0.3	1.0	16.9 ± 0.8	24.8	410
7 x 3 x 0.75	1.1	0.5	1.4	0.3	1.1	20.7 ± 1	24.8	620
8 x 3 x 0.75	1.1	0.5	1.4	0.3	1.1	21.9 ± 1	24.8	680
10 x 3 x 0.75	1.1	0.5	1.5	0.3	1.2	24.6 ± 1	24.8	820
12 x 3 x 0.75	1.1	0.5	1.6	0.3	1.2	26.0 ± 1	24.8	930
14 x 3 x 0.75	1.1	0.5	1.6	0.3	1.2	26.9 ± 1	24.8	1020
16 x 3 x 0.75	1.1	0.5	1.6	0.3	1.2	28.3 ± 1	24.8	1130
19 x 3 x 0.75	1.1	0.5	1.7	0.3	1.3	30.6 ± 1	24.8	1310
24 x 3 x 0.75	1.1	0.5	1.8	0.3	1.4	33.7 ± 1	24.8	1590
30 x 3 x 0.75	1.1	0.5	1.9	0.4	1.5	37.5 ± 1.2	24.8	2000
32 x 3 x 0.75	1.1	0.5	2.0	0.4	1.5	38.9 ± 1.2	24.8	2130
37 x 3 x 0.75	1.1	0.5	2.1	0.4	1.5	40.7 ± 1.2	24.8	2370
1 x 3 x 1	1.3	0.5	1.0	0.2	0.8	10.9 ± 0.8	18.1	190
2 x 3 x 1	1.3	0.5	1.2	0.3	0.9	15.9 ± 0.8	18.3	340
3 x 3 x 1	1.3	0.5	1.2	0.3	1.0	16.7 ± 0.8	18.3	400
4 x 3 x 1	1.3	0.5	1.3	0.3	1.0	18.1 ± 0.8	18.3	480
7 x 3 x 1	1.3	0.5	1.4	0.3	1.1	22.1 ± 1	18.3	720
8 x 3 x 1	1.3	0.5	1.5	0.3	1.1	23.6 ± 1	18.3	810
10 x 3 x 1	1.3	0.5	1.6	0.3	1.2	26.5 ± 1	18.3	970
12 x 3 x 1	1.3	0.5	1.6	0.3	1.2	27.8 ± 1	18.3	1100
14 x 3 x 1	1.3	0.5	1.7	0.3	1.3	29.2 ± 1	18.3	1240
16 x 3 x 1	1.3	0.5	1.7	0.3	1.3	30.8 ± 1	18.3	1360
19 x 3 x 1	1.3	0.5	1.8	0.3	1.4	33.2 ± 1	18.3	1600
24 x 3 x 1	1.3	0.5	1.9	0.4	1.5	37.1 ± 1.2	18.3	2010
30 x 3 x 1	1.3	0.5	2.1	0.4	1.5	40.8 ± 1.2	18.3	2430
32 x 3 x 1	1.3	0.5	2.1	0.4	1.6	42.3 ± 1.2	18.3	2600
37 x 3 x 1	1.3	0.5	2.2	0.4	1.6	44.3 ± 1.2	18.3	2900

TIOI(i & c) 250V, TICI(i & c) 250V Cu/XLPE/ISCR/OSCR/HF/CWB or SWB/HF
Armoured Instrumentation Cable

Max. conductor temperature: 90°C

Range and dimensions

Number of pairs x conductor cross-section	Conductor diameter	Insulation thickness	Inner covering diameter	Armour wire diameter	Outer sheath thickness	Outer sheath diameter	Resistance at 20°C Max.	Weight Approx.
mm ²	mm	mm	mm	mm	mm	mm	Ohm/km	kg/km
1 x 3 x 1.5	1.6	0.6	1.1	0.3	0.9	12.3 ± 0.8	12.1	220
2 x 3 x 1.5	1.6	0.6	1.3	0.3	1.0	17.9 ± 0.8	12.2	410
3 x 3 x 1.5	1.6	0.6	1.3	0.3	1.0	18.8 ± 0.8	12.2	500
4 x 3 x 1.5	1.6	0.6	1.4	0.3	1.1	20.7 ± 1	12.2	610
7 x 3 x 1.5	1.6	0.6	1.5	0.3	1.2	25.3 ± 1	12.2	940
8 x 3 x 1.5	1.6	0.6	1.6	0.3	1.2	27.0 ± 1	12.2	1040
10 x 3 x 1.5	1.6	0.6	1.7	0.3	1.3	30.4 ± 1	12.2	1260
12 x 3 x 1.5	1.6	0.6	1.8	0.3	1.3	32.1 ± 1	12.2	1440
14 x 3 x 1.5	1.6	0.6	1.8	0.3	1.4	33.5 ± 1	12.2	1620
16 x 3 x 1.5	1.6	0.6	1.9	0.4	1.4	35.9 ± 1.2	12.2	1890
19 x 3 x 1.5	1.6	0.6	2.0	0.4	1.5	38.8 ± 1.2	12.2	2170
24 x 3 x 1.5	1.6	0.6	2.1	0.4	1.6	42.8 ± 1.2	12.2	2660
30 x 3 x 1.5	1.6	0.6	2.3	0.4	1.7	47.3 ± 1.2	12.2	3240
32 x 3 x 1.5	1.6	0.6	2.4	0.4	1.7	49.0 ± 1.2	12.2	3440
37 x 3 x 1.5	1.6	0.6	2.4	0.4	1.8	51.3 ± 1.2	12.2	3850

