



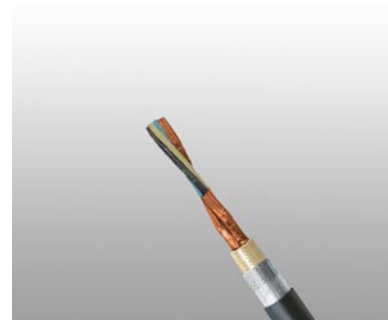
## Instrumentation Cables

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### S1 or S1/S5 RFOU(i) 250V

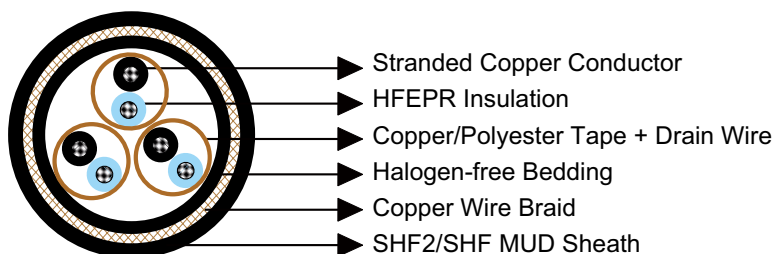
#### Applications

These cables are flame retardant, low smoke, halogen free and mud resistant, used for instrumentation, communication, control and alarm systems.



#### Standards

- IEC 60092-376
- IEC 60092-351
- IEC 60092-359
- IEC 60332-1
- IEC 60332-3-22
- IEC 60754-1,2
- IEC 61034-1,2
- NEK 606:2004



#### Construction

- **Conductors:** Circular tinned annealed stranded copper wire to IEC 60228 class 2.
- **Insulation:** Halogen free EPR compound.
- **Twinning:** Colour coded cores twisted together.
- **Individual Shielding:** Each pairs/triples are screened by copper backed polyester tape in contact with a stranded tinned copper drain wire and wrapped with polyester tape. Pairs/triples are numbered with numbered tape or by numbers printed directly on the insulated conductors.
- **Bedding:** Halogen free compound.
- **Armour:** Tinned copper wire braid.
- **Outer Sheath:** Halogen free thermosetting compound, SHF2 (for TYPE S1). Halogen free MUD resistant thermosetting compound, SHF MUD (for TYPE S1/S5), coloured grey (blue for intrinsically safe).





### Electrical Characteristics

Nominal Cross Section Area	mm <sup>2</sup>	0.75	1.0	1.5	2.5
Nominal Conductor Diameter	mm	1.1	1.3	1.6	2.0
Maximum Resistant@20°C	Ω/km	26.3	19.3	12.9	8.02
Mutual Capacitance	nF/km	90	100	110	120
Nominal Inductance@1KHz	MH/km	0.686	0.649	0.637	0.598
Maximum L/R@1KHz	μH/Ω	20	25	35	50
Operating Voltage	V	250	250	250	250

### Mechanical and Thermal Properties

- Bending Radius: 8×OD (during installation); 6×OD (fixed installed)
- Temperature Range: -20°C ~ +90°C

### Dimensions and Weight

Construction No. of elements×No. of cores in element×Cross section(mm <sup>2</sup> )	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm		Nominal Overall Diameter mm	Nominal Weight kg/km
		Inner	Outer		
1×2×0.75	0.6	1.1	1.1	10.9	210
2×2×0.75	0.6	1.1	1.3	13.2	325
4×2×0.75	0.6	1.1	1.3	16.2	480
7×2×0.75	0.6	1.1	1.4	19.0	670
8×2×0.75	0.6	1.1	1.4	20.4	755
9×2×0.75	0.6	1.1	1.5	22.6	835
10×2×0.75	0.6	1.1	1.5	23.5	875
12×2×0.75	0.6	1.1	1.5	24.1	1010
14×2×0.75	0.6	1.1	1.6	25.3	1040
15×2×0.75	0.6	1.1	1.6	26.9	1120
16×2×0.75	0.6	1.1	1.6	27.3	1165
18×2×0.75	0.6	1.1	1.7	28.7	1270
19×2×0.75	0.6	1.1	1.7	29.0	1360
20×2×0.75	0.6	1.1	1.7	30.1	1420
21×2×0.75	0.6	1.1	1.8	31.0	1490
23×2×0.75	0.6	1.1	1.8	31.5	1595
24×2×0.75	0.6	1.2	1.8	33.4	1720
27×2×0.75	0.6	1.2	1.9	34.0	1770
30×2×0.75	0.6	1.2	1.9	35.1	1910



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Construction No. of elements×No. of cores in element×Cross section(mm <sup>2</sup> )	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm		Nominal Overall Diameter mm	Nominal Weight kg/km
		Inner	Outer		
32×2×0.75	0.6	1.2	2.0	36.1	2060
33×2×0.75	0.6	1.2	2.0	36.9	2160
37×2×0.75	0.6	1.2	2.0	38.0	2330
1×3×0.75	0.6	1.1	1.2	11.3	225
2×3×0.75	0.6	1.1	1.3	16.4	490
3×3×0.75	0.6	1.1	1.4	17.2	520
4×3×0.75	0.6	1.1	1.4	18.5	610
5×3×0.75	0.6	1.1	1.5	19.8	720
6×3×0.75	0.6	1.1	1.5	21.7	835
7×3×0.75	0.6	1.1	1.5	21.7	870
8×3×0.75	0.6	1.1	1.6	23.5	950
9×3×0.75	0.6	1.1	1.6	24.6	1065
10×3×0.75	0.6	1.1	1.7	26.4	1095
12×3×0.75	0.6	1.1	1.7	27.3	1275
14×3×0.75	0.6	1.1	1.8	28.5	1320
15×3×0.75	0.6	1.1	1.8	29.3	1395
16×3×0.75	0.6	1.1	1.8	30.1	1465
18×3×0.75	0.6	1.1	1.9	31.6	1600
19×3×0.75	0.6	1.1	1.9	31.9	1655
20×3×0.75	0.6	1.2	2.0	33.2	1820
21×3×0.75	0.6	1.2	2.0	33.8	1890
23×3×0.75	0.6	1.2	2.0	35.1	2050
24×3×0.75	0.6	1.2	2.0	36.0	2220
27×3×0.75	0.6	1.2	2.1	37.9	2335
30×3×0.75	0.6	1.2	2.2	39.7	2555
32×3×0.75	0.6	1.2	2.2	40.7	2690
1×2×1.0	0.6	1.1	1.2	11.4	230
2×2×1.0	0.6	1.1	1.3	14.5	370
3×2×1.0	0.6	1.1	1.3	16.6	515
4×2×1.0	0.6	1.1	1.4	17.4	595
5×2×1.0	0.6	1.1	1.4	19.1	685
6×2×1.0	0.6	1.1	1.5	20.7	790
7×2×1.0	0.6	1.1	1.5	20.7	820
8×2×1.0	0.6	1.1	1.6	21.6	875
9×2×1.0	0.6	1.1	1.6	23.8	995
10×2×1.0	0.6	1.1	1.6	24.8	1010
12×2×1.0	0.6	1.1	1.7	25.6	1195
14×2×1.0	0.6	1.1	1.7	26.7	1210
15×2×1.0	0.6	1.1	1.8	28.5	1320
16×2×1.0	0.6	1.1	1.8	29.0	1375
18×2×1.0	0.6	1.1	1.9	30.5	1500
19×2×1.0	0.6	1.1	1.9	30.8	1555





## Instrumentation Cables

Construction No. of elements×No. of cores in element×Cross section(mm <sup>2</sup> )	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm		Nominal Overall Diameter mm	Nominal Weight kg/km
		Inner	Outer		
20×2×1.0	0.6	1.1	1.9	31.9	1680
21×2×1.0	0.6	1.2	2.0	33.3	1790
23×2×1.0	0.6	1.2	2.0	33.7	1920
24×2×1.0	0.6	1.2	2.0	35.2	2015
27×2×1.0	0.6	1.2	2.1	36.5	2185
30×2×1.0	0.6	1.2	2.1	37.7	2365
33×2×1.0	0.6	1.2	2.2	39.2	2570
37×2×1.0	0.6	1.2	2.2	40.4	2775
1×3×1.0	0.6	1.1	1.2	11.8	250
2×3×1.0	0.6	1.1	1.4	17.3	555
3×3×1.0	0.6	1.1	1.4	17.9	590
4×3×1.0	0.6	1.1	1.4	19.4	700
5×3×1.0	0.6	1.1	1.5	20.7	825
6×3×1.0	0.6	1.1	1.6	23.0	975
7×3×1.0	0.6	1.1	1.6	23.0	990
8×3×1.0	0.6	1.1	1.6	24.4	1095
9×3×1.0	0.6	1.1	1.7	26.4	1245
10×3×1.0	0.6	1.1	1.8	28.0	1265
12×3×1.0	0.6	1.1	1.8	28.9	1500
14×3×1.0	0.6	1.1	1.8	30.0	1545
15×3×1.0	0.6	1.1	1.9	31.1	1655
16×3×1.0	0.6	1.1	1.9	31.8	1870
18×3×1.0	0.6	1.2	2.0	33.9	1935
19×3×1.0	0.6	1.2	2.0	34.2	2040
20×3×1.0	0.6	1.2	2.0	35.1	2150
21×3×1.0	0.6	1.2	2.1	35.9	2245
23×3×1.0	0.6	1.2	2.1	37.6	2525
24×3×1.0	0.6	1.2	2.1	38.7	2685
27×3×1.0	0.6	1.2	2.2	40.3	2785
30×3×1.0	0.6	1.2	2.3	42.1	3050
32×3×1.0	0.6	1.2	2.3	43.2	3215
1×2×1.5	0.7	1.1	1.2	12.4	270
2×2×1.5	0.7	1.1	1.4	15.8	495
3×2×1.5	0.7	1.1	1.4	17.9	640
4×2×1.5	0.7	1.1	1.5	19.5	715
5×2×1.5	0.7	1.1	1.5	21.5	850
6×2×1.5	0.7	1.1	1.6	23.3	990
7×2×1.5	0.7	1.1	1.6	23.3	1030
8×2×1.5	0.7	1.1	1.7	24.8	1130
9×2×1.5	0.7	1.1	1.7	26.9	1230
10×2×1.5	0.7	1.1	1.8	28.2	1270
12×2×1.5	0.7	1.1	1.8	29.3	1375



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Construction No. of elements×No. of cores in element×Cross section(mm <sup>2</sup> )	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm		Nominal Overall Diameter mm	Nominal Weight kg/km
		Inner	Outer		
14×2×1.5	0.7	1.1	1.8	30.2	1520
15×2×1.5	0.7	1.2	1.9	32.7	1685
16×2×1.5	0.7	1.2	2.0	33.4	1775
18×2×1.5	0.7	1.2	2.0	35.0	1920
19×2×1.5	0.7	1.2	2.0	35.3	1990
20×2×1.5	0.7	1.2	2.1	37.2	2255
21×2×1.5	0.7	1.2	2.1	38.2	2345
23×2×1.5	0.7	1.2	2.2	39.0	2540
24×2×1.5	0.7	1.2	2.2	40.7	2610
27×2×1.5	0.7	1.2	2.3	41.7	2775
30×2×1.5	0.7	1.2	2.3	43.1	3005
33×2×1.5	0.7	1.4	2.4	45.1	3480
37×2×1.5	0.7	1.4	2.5	46.7	3600
1×3×1.5	0.7	1.1	1.2	13.0	300
2×3×1.5	0.7	1.1	1.4	17.5	510
3×3×1.5	0.7	1.1	1.5	20.1	740
4×3×1.5	0.7	1.1	1.5	21.8	870
5×3×1.5	0.7	1.1	1.6	23.3	1045
6×3×1.5	0.7	1.1	1.7	25.9	1230
7×3×1.5	0.7	1.1	1.7	26.0	1265
8×3×1.5	0.7	1.1	1.8	27.8	1405
9×3×1.5	0.7	1.1	1.8	29.5	1585
10×3×1.5	0.7	1.1	1.9	31.8	1680
12×3×1.5	0.7	1.2	2.0	33.1	1950
14×3×1.5	0.7	1.2	2.0	34.6	2020
15×3×1.5	0.7	1.2	2.0	35.6	2145
16×3×1.5	0.7	1.2	2.1	36.6	2450
18×3×1.5	0.7	1.2	2.2	39.2	2580
19×3×1.5	0.7	1.2	2.2	39.5	2675
20×3×1.5	0.7	1.2	2.2	40.5	2875
21×3×1.5	0.7	1.2	2.3	41.5	3000
23×3×1.5	0.7	1.2	2.3	43.0	3260
24×3×1.5	0.7	1.4	2.4	44.9	3310
27×3×1.5	0.7	1.4	2.4	46.4	3635
30×3×1.5	0.7	1.4	2.5	48.5	3980
32×3×1.5	0.7	1.4	2.6	50.0	4225
1×2×2.5	0.7	1.1	1.2	13.3	320
2×2×2.5	0.7	1.1	1.4	17.5	530
3×2×2.5	0.7	1.1	1.5	20.2	780
4×2×2.5	0.7	1.1	1.5	21.5	900
5×2×2.5	0.7	1.1	1.6	23.4	1060
6×2×2.5	0.7	1.1	1.7	25.4	1235





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Construction No. of elements×No. of cores in element×Cross section(mm <sup>2</sup> )	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm		Nominal Overall Diameter mm	Nominal Weight kg/km
		Inner	Outer		
7×2×2.5	0.7	1.1	1.7	25.4	1290
8×2×2.5	0.7	1.1	1.7	27.5	1400
9×2×2.5	0.7	1.1	1.8	29.4	1495
10×2×2.5	0.7	1.1	1.9	30.9	1595
12×2×2.5	0.7	1.1	1.9	31.6	1755
14×2×2.5	0.7	1.2	2.0	33.6	1990
15×2×2.5	0.7	1.2	2.1	36.0	2165
16×2×2.5	0.7	1.2	2.1	36.9	2350
18×2×2.5	0.7	1.2	2.2	38.9	2565
19×2×2.5	0.7	1.2	2.2	39.3	2665
20×2×2.5	0.7	1.2	2.2	40.8	2880
21×2×2.5	0.7	1.2	2.3	42.1	3020
23×2×2.5	0.7	1.2	2.3	42.7	3255
24×2×2.5	0.7	1.4	2.4	45.2	3330
27×2×2.5	0.7	1.4	2.4	46.1	3615
30×2×2.5	0.7	1.4	2.5	47.8	3950
33×2×2.5	0.7	1.4	2.6	49.7	4300
37×2×2.5	0.7	1.4	2.6	51.2	4670
1×3×2.5	0.7	1.1	1.3	13.9	355
2×3×2.5	0.7	1.1	1.5	20.9	840
3×3×2.5	0.7	1.1	1.5	21.6	945
4×3×2.5	0.7	1.1	1.6	23.3	1115
5×3×2.5	0.7	1.1	1.7	25.4	1315
6×3×2.5	0.7	1.1	1.8	28.3	1555
7×3×2.5	0.7	1.1	1.8	28.3	1640
8×3×2.5	0.7	1.1	1.8	30.2	1780
9×3×2.5	0.7	1.2	1.9	32.6	2055
10×3×2.5	0.7	1.2	2.0	35.1	2080
12×3×2.5	0.7	1.2	2.1	36.8	2435
14×3×2.5	0.7	1.2	2.1	38.3	2700
15×3×2.5	0.7	1.2	2.2	39.7	2895
16×3×2.5	0.7	1.2	2.2	40.8	3050
18×3×2.5	0.7	1.2	2.3	42.9	3335
19×3×2.5	0.7	1.2	2.3	43.3	3470
20×3×2.5	0.7	1.4	2.4	44.9	3785
21×3×2.5	0.7	1.4	2.4	45.8	3935
23×3×2.5	0.7	1.4	2.5	47.7	4150
24×3×2.5	0.7	1.4	2.5	48.6	4300
27×3×2.5	0.7	1.4	2.6	51.1	4765
30×3×2.5	0.7	1.4	2.7	53.5	5235
32×3×2.5	0.7	1.6	2.8	55.5	5620