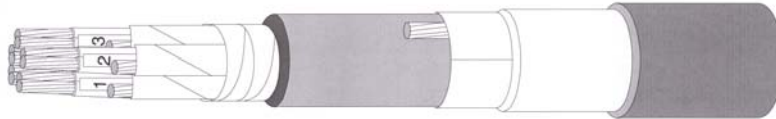




PetroBlock TFLP(i) 250V Instrumentation cable

Flame retardant cable for instrumentation and telecommunication. Screened cable for outdoor and underground installation. The PetroBlock barrier provides excellent protection against moisture, hydrocarbons and other chemicals and solvents in the ground.



TFLP(i) 250V

XLPE/LSTPE/AL/PA/PVC

Operating temperature : 90°C
Operating Voltage : 250V

Application

Fixed installation outdoor and underground for instrumentation and communication systems in harsh environments both in EX- and safe areas.

Standards applied

| | |
|-------------------|-------------------|
| IEC 60092-376 | - Design |
| IEC 60228 class 2 | - Conductor |
| IEC 60092-351 | - Insulation |
| IEC 60092-359 | - Sheath |
| IEC 60332-1 | - Flame Retardant |

Construction

| | Code Letter | |
|--------------------------------------|-------------|--|
| Conductor | | Annealed stranded circular copper, IEC 60228 class 2 |
| Insulation | T | Crosslinked Polyethylene, IEC 60092-351 (HFXLPE) |
| Pair / Triple / Quad twisting | | Color coded cores twisted together and wrapped with polyester tape. Pairs/Triples are laid up and individually shielded by aluminium backed polyester tape with tinned copper drain wire. Each pair/triple is wrapped with polyester tape to prevent electrical contact with adjacent pairs/triples. Pairs/triples are identified by numbered tape or by numbers printed directly on the insulated conductors. |
| Inner covering | F | Flame retardant and halogen-free thermoplastic compound |
| Armour/screen | L | The PetroBlock barrier. Aluminium foil longitudinally wrapped and laminated to a polyamide sheath. A flexible tinned drain wire underneath the aluminium foil. |
| Outer sheath | P | Polyvinyl chloride (PVC), IEC 60092-359(ST2) |
| Marking text | | E.g. "meter" "år" DRAKA NORSK KABEL TFLP(i) 250V 4 PAIR 0,75 mm ² S201 IEC 60092-376 IEC 60332-1 |
| Outer sheath colour | | Grey or Blue |

PetroBlock TFLP(i) 250V Instrumentation cable

Core identification instrumentation cables

| | |
|--------|-----------------------------------|
| Pair | Black - Light Blue |
| Triple | Black - Light Blue - Brown |
| Quad | Black - Light Blue - Brown - Grey |

Range and dimensions

| Number of elements | No of cores in element | Cross section core, mm ² | Conductor Diameter, mm | Insulation Thickness, mm | Thickness Bedding, mm | Diameter bedding, mm | Diameter Moisture Barrier, mm | Thickness Outer Sheath, mm | Diameter outer sheath, mm | Weight of Cable Approx. (Kg/Km) | Copper content Approx. (kg/km) |
|--------------------|------------------------|-------------------------------------|------------------------|--------------------------|-----------------------|----------------------|-------------------------------|----------------------------|---------------------------|---------------------------------|--------------------------------|
| 1 | 2 | 0.75 | 1.1 | 0.5 | 1.1 | 6.5 ± 0.5 | 9.5 ± 0.5 | 1.1 | 12 ± 0.8 | 185 | 25 |
| 1 | 2 | 0.75 | 1.1 | 0.5 | 1.1 | 6.5 ± 0.5 | 9.5 ± 0.5 | 1.1 | 12 ± 0.8 | 185 | 25 |
| 2 | 2 | 0.75 | 1.1 | 0.5 | 1.1 | 10 ± 0.8 | 13 ± 0.8 | 1.2 | 15.5 ± 0.8 | 270 | 44 |
| 2 | 2 | 0.75 | 1.1 | 0.5 | 1.1 | 10 ± 0.8 | 13 ± 0.8 | 1.2 | 15.5 ± 0.8 | 270 | 44 |
| 4 | 2 | 0.75 | 1.1 | 0.5 | 1.1 | 11.5 ± 0.8 | 15 ± 0.8 | 1.3 | 17.5 ± 0.8 | 370 | 80 |
| 4 | 2 | 0.75 | 1.1 | 0.5 | 1.1 | 11.5 ± 0.8 | 15 ± 0.8 | 1.3 | 17.5 ± 0.8 | 370 | 80 |
| 10 | 2 | 0.75 | 1.1 | 0.5 | 1.2 | 18 ± 0.8 | 21 ± 1 | 1.5 | 24 ± 1 | 670 | 190 |
| 10 | 2 | 0.75 | 1.1 | 0.5 | 1.2 | 18 ± 0.8 | 21 ± 1 | 1.5 | 24 ± 1 | 670 | 190 |
| 16 | 2 | 0.75 | 1.1 | 0.5 | 1.4 | 21 ± 1 | 24.5 ± 1 | 1.6 | 27.5 ± 1 | 930 | 300 |
| 16 | 2 | 0.75 | 1.1 | 0.5 | 1.4 | 21 ± 1 | 24.5 ± 1 | 1.6 | 27.5 ± 1 | 930 | 300 |
| 24 | 2 | 0.75 | 1.1 | 0.5 | 1.6 | 26 ± 1 | 30 ± 1.5 | 1.8 | 33.5 ± 1.5 | 1350 | 447 |
| 1 | 3 | 0.75 | 1.1 | 0.5 | 1.1 | 6.5 ± 0.5 | 10 ± 0.8 | 1.1 | 12 ± 0.8 | 195 | 32 |
| 1 | 3 | 0.75 | 1.1 | 0.5 | 1.1 | 6.5 ± 0.5 | 10 ± 0.8 | 1.1 | 12 ± 0.8 | 195 | 32 |
| 2 | 3 | 0.75 | 1.1 | 0.5 | 1.1 | 11 ± 0.8 | 14.5 ± 0.8 | 1.3 | 17 ± 0.8 | 320 | 58 |
| 2 | 3 | 0.75 | 1.1 | 0.5 | 1.1 | 11 ± 0.8 | 14.5 ± 0.8 | 1.3 | 17 ± 0.8 | 320 | 58 |
| 4 | 3 | 0.75 | 1.1 | 0.5 | 1.1 | 13 ± 0.8 | 16 ± 0.8 | 1.4 | 19 ± 0.8 | 440 | 108 |
| 4 | 3 | 0.75 | 1.1 | 0.5 | 1.1 | 13 ± 0.8 | 16 ± 0.8 | 1.4 | 19 ± 0.8 | 440 | 108 |
| 10 | 3 | 0.75 | 1.1 | 0.5 | 1.2 | 20.5 ± 1 | 23.5 ± 1 | 1.6 | 26.5 ± 1 | 830 | 260 |
| 10 | 3 | 0.75 | 1.1 | 0.5 | 1.2 | 20.5 ± 1 | 23.5 ± 1 | 1.6 | 26.5 ± 1 | 830 | 260 |
| 16 | 3 | 0.75 | 1.1 | 0.5 | 1.4 | 24 ± 1 | 27 ± 1 | 1.7 | 30.5 ± 1.5 | 1160 | 412 |
| 16 | 3 | 0.75 | 1.1 | 0.5 | 1.4 | 24 ± 1 | 27 ± 1 | 1.7 | 30.5 ± 1.5 | 1160 | 412 |
| 1 | 2 | 1.5 | 1.6 | 0.6 | 1.1 | 8 ± 0.5 | 11 ± 0.8 | 1.1 | 13.5 ± 0.8 | 230 | 41 |
| 1 | 2 | 1.5 | 1.6 | 0.6 | 1.1 | 8 ± 0.5 | 11 ± 0.8 | 1.1 | 13.5 ± 0.8 | 230 | 41 |
| 2 | 2 | 1.5 | 1.6 | 0.6 | 1.1 | 12.5 ± 0.8 | 16 ± 0.8 | 1.3 | 18.5 ± 0.8 | 370 | 76 |
| 2 | 2 | 1.5 | 1.6 | 0.6 | 1.1 | 12.5 ± 0.8 | 16 ± 0.8 | 1.3 | 18.5 ± 0.8 | 370 | 76 |
| 4 | 2 | 1.5 | 1.6 | 0.6 | 1.1 | 15 ± 0.8 | 18 ± 0.8 | 1.4 | 21 ± 1 | 510 | 144 |
| 4 | 2 | 1.5 | 1.6 | 0.6 | 1.1 | 15 ± 0.8 | 18 ± 0.8 | 1.4 | 21 ± 1 | 510 | 144 |
| 10 | 2 | 1.5 | 1.6 | 0.6 | 1.2 | 23 ± 1 | 26.5 ± 1 | 1.7 | 30 ± 1.5 | 1010 | 350 |
| 10 | 2 | 1.5 | 1.6 | 0.6 | 1.2 | 23 ± 1 | 26.5 ± 1 | 1.7 | 30 ± 1.5 | 1010 | 350 |
| 16 | 2 | 1.5 | 1.6 | 0.6 | 1.4 | 27.5 ± 1 | 31 ± 1.5 | 1.8 | 34.5 ± 1.5 | 1450 | 557 |
| 16 | 2 | 1.5 | 1.6 | 0.6 | 1.4 | 27.5 ± 1 | 31 ± 1.5 | 1.8 | 34.5 ± 1.5 | 1450 | 557 |
| 1 | 3 | 1.5 | 1.6 | 0.6 | 1.1 | 8.5 ± 0.5 | 11.5 ± 0.8 | 1.2 | 14 ± 0.8 | 255 | 55 |
| 1 | 3 | 1.5 | 1.6 | 0.6 | 1.1 | 8.5 ± 0.5 | 11.5 ± 0.8 | 1.2 | 14 ± 0.8 | 255 | 55 |



PetroBlock TFLP(i) 250V Instrumentation cable

| Number of elements | No of cores in element | Cross section core, mm ² | Conductor Diameter, mm | Insulation Thickness, mm | Thickness Bedding, mm | Diameter bedding, mm | Diameter Moisture Barrier, mm | Thickness Outer Sheath, mm | Diameter outer sheath, mm | Weight of Cable Approx. (Kg/Km) | Copper content Approx. (kg/km) |
|--------------------|------------------------|-------------------------------------|------------------------|--------------------------|-----------------------|----------------------|-------------------------------|----------------------------|---------------------------|---------------------------------|--------------------------------|
| 2 | 3 | 1.5 | 1.6 | 0.6 | 1.1 | 14 ± 0.8 | 0.8 17.5 ± 0.8 | 1.4 | 20 ± 1 | 440 | 104 |
| 2 | 3 | 1.5 | 1.6 | 0.6 | 1.1 | 14 ± 0.8 | 17.5 ± 0.8 | 1.4 | 20 ± 1 | 440 | 104 |
| 4 | 3 | 1.5 | 1.6 | 0.6 | 1.1 | 16.5 ± 0.8 | 20 ± 1 | 1.5 | 23 ± 1 | 630 | 200 |
| 4 | 3 | 1.5 | 1.6 | 0.6 | 1.1 | 16.5 ± 0.8 | 20 ± 1 | 1.5 | 23 ± 1 | 630 | 200 |
| 10 | 3 | 1.5 | 1.6 | 0.6 | 1.2 | 26 ± 1 | 30 ± 1.5 | 1.8 | 33.5 ± 1.5 | 1300 | 490 |
| 10 | 3 | 1.5 | 1.6 | 0.6 | 1.2 | 26 ± 1 | 30 ± 1.5 | 1.8 | 33.5 ± 1.5 | 1300 | 490 |
| 16 | 3 | 1.5 | 1.6 | 0.6 | 1.4 | 31 ± 1.5 | 34.5 ± 1.5 | 2 | 38.5 ± 1.5 | 1860 | 780 |
| 16 | 3 | 1.5 | 1.6 | 0.6 | 1.4 | 31 ± 1.5 | 34.5 ± 1.5 | 2 | 38.5 ± 1.5 | 1860 | 780 |
| 1 | 2 | 2.5 | 2 | 0.6 | 1.1 | 9 ± 0.5 | 12 ± 0.8 | 1.2 | 14.5 ± 0.8 | 275 | 61 |

Electrical values instrumentation cables

| Type | Capacitance, approx. (nF/km) | Inductance, approx. (mH/km) | Resistance at 20°C, max. (Ohm/km) | L/R ratio, (microH/Ohm) |
|--------------------------------------|------------------------------|-----------------------------|-----------------------------------|-------------------------|
| Shielded pair 0,75 mm ² | 75 | 0,64 | 24,5 | 13,1 |
| Shielded triple 0,75 mm ² | 75 | 0,64 | 24,5 | 13,1 |
| Shielded pair 1,5 mm ² | 80 | 0,60 | 12,1 | 24,8 |
| Shielded triple 1,5 mm ² | 80 | 0,60 | 12,1 | 24,8 |
| Shielded pair 2,5 mm ² | 95 | 0,57 | 7,41 | 38,5 |
| Shielded triple 2,5 mm ² | 95 | 0,57 | 7,41 | 38,5 |

Ordering information

| Part number | Description | Sheath Colour | EAN No. DNK | EL No. |
|-------------|---|---------------|---------------|--------|
| 857200 | TFLP(I) 1PAIR 0.75mm ² S201 | GREY | 7021528572001 | - |
| 857201 | TFLP(I) 1PAIR 0.75mm ² S201 | BLUE | 7021528572018 | - |
| 857206 | TFLP(I) 2PAIR 0.75mm ² S201 | GREY | 7021528572063 | - |
| 857207 | TFLP(I) 2PAIR 0.75mm ² S201 | BLUE | 7021528572070 | - |
| 857218 | TFLP(I) 4PAIR 0.75mm ² S201 | GREY | 7021528572186 | - |
| 857219 | TFLP(I) 4PAIR 0.75mm ² S201 | BLUE | 7021528572193 | - |
| 857233 | TFLP(I) 10PAIR 0.75mm ² S201 | GREY | 7021528572339 | - |
| 857234 | TFLP(I) 10PAIR 0.75mm ² S201 | BLUE | 7021528572346 | - |
| 857242 | TFLP(I) 16PAIR 0.75mm ² S201 | GREY | 7021528572421 | - |
| 857243 | TFLP(I) 16PAIR 0.75mm ² S201 | BLUE | 7021528572438 | - |
| 857248 | TFLP(I) 24PAIR 0.75mm ² S201 | GREY | 7021528572483 | - |
| 857260 | TFLP(I) 1TRIP 0.75mm ² S201 | GREY | 7021528572605 | - |
| 857261 | TFLP(I) 1TRIP 0.75mm ² S201 | BLUE | 7021528572612 | - |
| 857266 | TFLP(I) 2TRIP 0.75mm ² S201 | GREY | 7021528572667 | - |
| 857267 | TFLP(I) 2TRIP 0.75mm ² S201 | BLUE | 7021528572674 | - |
| 857278 | TFLP(I) 4TRIP 0.75mm ² S201 | GREY | 7021528572780 | - |
| 857279 | TFLP(I) 4TRIP 0.75mm ² S201 | BLUE | 7021528572797 | - |
| 857293 | TFLP(I) 10TRIP 0.75mm ² S201 | GREY | 7021528572933 | - |
| 857294 | TFLP(I) 10TRIP 0.75mm ² S201 | BLUE | 7021528572940 | - |
| 857302 | TFLP(I) 16TRIP 0.75mm ² S201 | GREY | 7021528573022 | - |
| 857303 | TFLP(I) 16TRIP 0.75mm ² S201 | BLUE | 7021528573039 | - |
| 857400 | TFLP(I) 1PAIR 1.5mm ² S201 | GREY | 7021528574005 | - |



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| Part number | Description | Sheath Colour | EAN No. DNK | EL No. |
|-------------|--|---------------|---------------|--------|
| 857401 | TFLP(I) 1PAIR 1.5mm ² S201 | BLUE | 7021528574012 | - |
| 857406 | TFLP(I) 2PAIR 1.5mm ² S201 | GREY | 7021528574067 | - |
| 857407 | TFLP(I) 2PAIR 1.5mm ² S201 | BLUE | 7021528574074 | - |
| 857418 | TFLP(I) 4PAIR 1.5mm ² S201 | GREY | 7021528574180 | - |
| 857419 | TFLP(I) 4PAIR 1.5mm ² S201 | BLUE | 7021528574197 | - |
| 857433 | TFLP(I) 10PAIR 1.5mm ² S201 | GREY | 7021528574333 | - |
| 857434 | TFLP(I) 10PAIR 1.5mm ² S201 | BLUE | 7021528574340 | - |
| 857442 | TFLP(I) 16PAIR 1.5mm ² S201 | GREY | 7021528574425 | - |
| 857443 | TFLP(I) 16PAIR 1.5mm ² S201 | BLUE | 7021528574432 | - |
| 857460 | TFLP(I) 1TRIP 1.5mm ² S201 | GREY | 7021528574609 | - |
| 857461 | TFLP(I) 1TRIP 1.5mm ² S201 | BLUE | 7021528574616 | - |
| 857466 | TFLP(I) 2TRIP 1.5mm ² S201 | GREY | 7021528574661 | - |
| 857467 | TFLP(I) 2TRIP 1.5mm ² S201 | BLUE | 7021528574678 | - |
| 857478 | TFLP(I) 4TRIP 1.5mm ² S201 | GREY | 7021528574784 | - |
| 857479 | TFLP(I) 4TRIP 1.5mm ² S201 | BLUE | 7021528574791 | - |
| 857493 | TFLP(I) 10TRIP 1.5mm ² S201 | GREY | 7021528574937 | - |
| 857494 | TFLP(I) 10TRIP 1.5mm ² S201 | BLUE | 7021528574944 | - |
| 857502 | TFLP(I) 16TRIP 1.5mm ² S201 | GREY | 7021528575026 | - |
| 857503 | TFLP(I) 16TRIP 1.5mm ² S201 | BLUE | 7021528575033 | - |
| 857600 | TFLP(I) 1PAIR 2.5mm ² S201 | GREY | 7021528576009 | - |

Installation recommendations

| Minimum Bending Radius during Installation | Minimum Bending Radius Fixed Installed | Maximum Tensile Load During Installation | Minimum Installation Temperature |
|--|--|--|----------------------------------|
| 20 x D | 12 x D | 50 N /mm ² | -10°C |