



Medium Voltage Power Cables

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P19 or P19/P21 RFOU 12/20KV

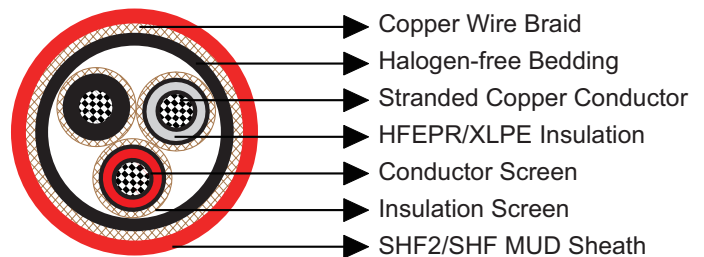
Applications

These cables are flame retardant, low smoke, halogen free and mud resistant, used for fixed installation for medium voltage power.



Standards

- IEC 60092-354
- 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 to IEC 60228 class 2.
- **Conductor Screen:** Semi conducting material.
- **Insulation:** Halogen-free EPR. XLPE can be offered as an option (for TFOU cable).
- **Insulation Screen:** Semi conducting material and tinned copper wire braid.
- **Bedding:** Halogen free compound.
- **Armour:** Tinned copper wire braid.
- **Outer Sheath:** Halogen free thermosetting compound, SHF2 (for TYPE P19), or halogen free mud resistant thermosetting compound, SHF MUD (for TYPE P19/P21), coloured red.

Optional

P20 or P20/P22 RFOU/TFOU 18/30(36) kV



Electrical Characteristics

Nominal Cross Section Area	mm ²	16	25	35	50	70	95
Nominal Conductor Diameter	mm	5.2	6.5	7.4	8.7	10.3	12.2
Maximum DC Resistant@20°C	Ω/km	1.16	0.734	0.529	0.391	0.27	0.195
Continuous Current Rating@45°C 1 Core	A	96	127	157	196	242	293
Continuous Current Rating@45°C 3 Core	A	67	89	110	137	169	205
Short Circuit Current 1s	A	2290	3580	5010	7150	10020	13590
Operating Voltage	KV	12/20	12/20	12/20	12/20	12/20	12/20

Nominal Cross Section Area	mm ²	120	150	185	240	300
Nominal Conductor Diameter	mm	13.8	15.1	17.0	19.6	21.9
Maximum DC Resistant@20°C	Ω/km	0.154	0.126	0.1	0.0762	0.0607
Continuous Current Rating@45°C 1 Core	A	339	389	444	522	601
Continuous Current Rating@45°C 3 Core	A	237	272	311	365	421
Short Circuit Current 1s	A	17170	21460	26470	34340	42930
Operating Voltage	KV	12/20	12/20	12/20	12/20	12/20

Ambient Temperature Correction Factors

Ambient Temperature Correction Factors	35	40	45	50	55	60	65	70	75	80
Rating Factor	1.1	1.05	1.0	0.94	0.88	0.82	0.74	0.67	0.58	0.47

Mechanical and Thermal Properties

- Bending Radius: 15×OD (during installation); 9×OD (fixed installed)
- Temperature Range: -20°C ~ +90°C

Dimensions and Weight

Construction No. of cores×Cross section(mm ²)	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm		Nominal Overall Diameter mm	Nominal Weight kg/km
		Inner	Outer		
1×16	5.5	1.0	1.6	28	1200
1×25	5.5	1.0	1.7	31.6	1530
1×35	5.5	1.2	1.8	32.3	1595



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Construction No. of cores×Cross section(mm ²)	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm		Nominal Overall Diameter mm	Nominal Weight kg/km
		Inner	Outer		
1×50	5.5	1.2	2.0	33.8	1795
1×70	5.5	1.2	2.1	34.6	2070
1×95	5.5	1.2	2.1	37.0	2470
1×120	5.5	1.3	2.1	38.8	2810
1×150	5.5	1.3	2.2	40.7	3245
1×185	5.5	1.4	2.2	42.9	3765
1×240	5.5	1.4	2.4	45.8	4510
1×300	5.5	1.4	2.6	48.5	5315
3×16	5.5	1.4	2.6	55.5	4950
3×25	5.5	1.4	2.7	62.2	5705
3×35	5.5	1.4	2.8	62.6	5990
3×50	5.5	1.8	3.0	65.4	6740
3×70	5.5	1.8	3.1	69.1	7790
3×95	5.5	2.0	3.3	73.0	9150
3×120	5.5	2.0	3.4	77.4	10580
3×150	5.5	2.0	3.5	81.9	12145
3×185	5.5	2.0	3.7	89.5	12265
3×240	5.5	2.2	3.9	96.1	14725
3×300	5.5	2.2	4.0	101.9	17190

Note: For XLPE insulated cable, a thinner insulation thickness is applied.

