

**Halogen-free, mud resistant MV power cable, RFOU 12/20(24)kV, P19/P21**

**Flame retardant halogen-free medium voltage (MV) cable. Mud resistant**

**RFOU 12/20(24) kV**

**EPR/EPR/TCWB/EVA**

**NEK TS 606 CodeP19/P21**



**Operating temperature : 90°C**  
**Operating Voltage : 12/20(24) kV**

**Standards applied**

**Application**

Fixed installation for medium voltage (MV) power in both EX- and safe areas, general purposes. For installation in areas exposed to MUD and drilling/cleaning fluids. Meets the MUD resistance requirement in NEK TS 606:2009

- IEC 60092-354 - Design
- IEC 60228 class 2 - Conductor
- IEC 60092-360 - Insulation
- IEC 60092-360 - Sheath
- IEC 60332-1-2 - Flame Retardant
- IEC 60332-3-22 - Flame Retardant
- IEC 60754-1,2 - Halogen Free
- IEC 61034-1,2 - Low Smoke

**Construction**

	Code Letter	
<b>Conductor</b>		Tinned stranded and compressed copper (STCC), IEC 60228 class 2
<b>Conductor screen semiconductive</b>		Semiconductive layer (EP-rubber)
<b>Insulation</b>	<b>R</b>	EP-rubber, IEC 60092-360 (EPR)
<b>Insulation screen semiconductive</b>		Semiconductive layer (EP-rubber)
<b>Lay up / Shielding</b>		Cores are laid up together. Cores are identified by Brown, Black or Grey threads under and over the metallic screen on each conductor.
<b>Inner covering</b>	<b>F</b>	Flame retardant and halogen-free thermoset compound
<b>Tape over inner covering</b>		PET tape
<b>Armour/screen</b>	<b>O</b>	Tinned annealed copper wire braid
<b>Tape over armour/screen</b>		PET tape
<b>Outer sheath</b>	<b>U</b>	Flame retardant, halogen-free and mud resistant thermoset compound, SHF2 (IEC 60092-360)
<b>Marking text</b>		E.g. "meter" "year" DRAKA 04 RFOU 12/20(24)KV P19/P21 3 x 95/50 mm <sup>2</sup> IEC 60332-3-22
<b>Manufacturing unit</b>		DRAKA 04 = Draka Industrial Cable, Germany
<b>Outer sheath colour</b>		Red



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**Thorne & Derrick**  
 +44 (0) 191 410 4292  
[www.powerandcables.com](http://www.powerandcables.com)

## Range and dimensions

Number of elements	Cross section core, mm <sup>2</sup>	Electrical Cross section braid, mm <sup>2</sup>	Conductor Diameter, mm	Insulation Thickness, mm	Thickness Inner covering, mm	Diameter inner covering, mm	Diameter Braid Wire, mm	Mechanical cross-section of the braid, mm <sup>2</sup>	Thickness Outer Sheath, mm	Diameter outer sheath, mm	Weight of Cable Approx. (Kg/Km)	Copper content Approx. (kg/km)
1	16	13	5.2	5.5	1.0	22.5 ±1.0	0.3	15.3	1.6	28 ± 1.5	1200	495
1	25	13	6.5	5.5	1.0	24 ±1.0	0.3	15.3	1.7	29.5 ± 1.5	1300	561
1	35	13	7.4	5.5	1.2	25 ±1.5	0.3	15.3	1.8	31 ± 2	1450	671
1	50	15	8.8	5.5	1.2	26.5 ±1.5	0.3	17.8	2.0	32.5 ± 2	1700	811
1	70	13	10.3	5.5	1.2	28 ± 1.5	0.3	15.3	2.1	34 ± 2.0	2000	1001
1	95	17	12.1	5.5	1.2	30 ±1.5	0.3	20.4	2.1	36 ± 2	2400	1210
1	120	15	13.6	5.5	1.3	31.5 ±1.5	0.3	17.8	2.1	38 ± 2	2650	1491
1	150	15	15.1	5.5	1.3	33 ±1.5	0.3	17.8	2.2	40 ± 2.5	3000	1835
1	185	18	16.8	5.5	1.4	35 ±1.5	0.3	20.4	2.2	41.5 ± 2.5	3500	2201
1	240	23	19.1	5.5	1.4	37.5 ±1.5	0.3	25.4	2.4	45.0 ± 2.5	4350	2915
1	300	28	21.5	5.5	1.4	41.0 ±2.0	0.3	30.5	2.6	47.0 ± 3.0	5200	3640
1	400	35	35.0	5.5	1.5	44.8 ±2.0	0.3	40.0	2.6	51.5 ± 3.0	6500	4400
3	16	31	5.2	5.5	1.4	48 ± 2.0	0.4	36.2	2.6	55.5 ± 3.0	9300	4112
3	25	35	6.5	5.5	1.4	51 ± 2.0	0.4	40.7	2.7	58.5 ± 3.0	4950	1558
3	35	35	7.4	5.5	1.4	53 ± 2.0	0.4	40.7	2.8	61 ± 3.0	5500	1885
3	50	35	8.8	5.5	1.8	57.0 ± 2.0	0.4	40.7	3.0	65.5 ± 3.5	6500	2276
3	70	35	10.3	5.5	1.8	60 ± 2.5	0.4	40.7	3.1	68.5 ± 3.5	7500	2979
3	95	50	12.1	5.5	2.0	64.5 ± 3.0	0.5	56.5	3.3	73.5 ± 4.0	9300	4112
3	120	60	13.6	5.5	2.0	67.5 ± 3.0	0.5	70.7	3.4	77 ± 4.0	10250	4761
3	150	75	15.1	5.5	2.0	71.0 ± 3.0	0.5	91.9	3.5	80.0 ± 4.5	11700	5822
3	185	45	16.8	5.5	2.0	75.0 ± 3.5	0.5	56.5	3.7	85.0 ± 4.5	12950	6615
3	240	55	19.1	5.5	2.2	79.5 ± 3.5	0.5	70.7	3.9	90.0 ± 4.5	15900	8797

## Ordering information

New Part number	Old Part number	Description	Sheath Colour	Stock item	EAN No. DNK	EL No.
	804100	RFOU 12/20KV 1X 16/13mm <sup>2</sup> P19/P21	RED	-	7021528041002	-
	804101	RFOU 12/20KV 1X 25/13mm <sup>2</sup> P19/P21	RED	-	7021528041019	-
	804102	RFOU 12/20KV 1X 35/13mm <sup>2</sup> P19/P21	RED	-	7021528041026	-
	804103	RFOU 12/20KV 1X 50/15mm <sup>2</sup> P19/P21	RED	-	7021528041033	-
20076155		RFOU 12/20KV 1X 70/13mm <sup>2</sup> P19/P21	RED	-	7021528041040	-
20076158		RFOU 12/20KV 1X 95/17mm <sup>2</sup> P19/P21	RED	-	7021528041057	-
	804106	RFOU 12/20KV 1X120/15mm <sup>2</sup> P19/P21	RED	-	7021528041064	-
20099891		RFOU 12/20KV 1X150/15mm <sup>2</sup> P19/P21	RED	Yes	7021528041071	1061035
20092205		RFOU 12/20KV 1X185/18mm <sup>2</sup> P19/P21	RED	-	7021528041088	-
20077821		RFOU 12/20KV 1X240/23mm <sup>2</sup> P19/P21	RED	-	7021528041095	-
20076160		RFOU 12/20KV 1X300/28mm <sup>2</sup> P19/P21	RED	Yes	7021528041101	1061038
	804111	RFOU 12/20KV 1X400/35mm <sup>2</sup> P19/P21	RED	-	7021528041118	-
	804120	RFOU 12/20KV 3X 16/31mm <sup>2</sup> P19/P21	RED	-	7021528041200	-
	804121	RFOU 12/20KV 3X 25/35mm <sup>2</sup> P19/P21	RED	-	7021528041217	-
	804122	RFOU 12/20KV 3X 35/35mm <sup>2</sup> P19/P21	RED	-	7021528041224	-
	804123	RFOU 12/20KV 3X 50/35mm <sup>2</sup> P19/P21	RED	-	7021528041231	-
	804124	RFOU 12/20KV 3X 70/35mm <sup>2</sup> P19/P21	RED	-	7021528041248	-
	804125	RFOU 12/20KV 3X 95/50mm <sup>2</sup> P19/P21	RED	-	7021528041255	-
	804126	RFOU 12/20KV 3X120/60mm <sup>2</sup> P19/P21	RED	-	7021528041262	-
	804127	RFOU 12/20KV 3X150/75mm <sup>2</sup> P19/P21	RED	-	7021528041279	-
20077822		RFOU 12/20kV 3X 185/45mm <sup>2</sup> P19/P21	RED	-	7021528041286	-
	804129	RFOU 12/20KV 3X240/55mm <sup>2</sup> P19/P21	RED	-	7021528041293	-

## Electrical values power cables

Number of elements	Cross section core, mm <sup>2</sup>	Electrical Cross section braid, mm <sup>2</sup>	Conductor type 2	Max. conductor resistance at 20°C, Ohm/km	Max. conductor resistance at 90°C, Ohm/km	Reactance at 50Hz, Ohm/km	Reactance at 60Hz, Ohm/km	Capacitans per phase, nF/km	Current rating IEC 60092-352 Table B.4, Ampere	Short circuit rating 1 second, Ampere
1	16	13	STCC	1.16	1.479	0.164	0.197	170	96	2240
1	25	13	STCC	0.734	0.936	0.154	0.185	190	127	3500
1	35	13	STCC	0.529	0.675	0.149	0.178	200	157	4900
1	50	15	STCC	0.391	0.499	0.140	0.169	220	196	7000
1	70	13	STCC	0.270	0.344	0.133	0.160	250	242	9800
1	95	17	STCC	0.195	0.249	0.127	0.152	270	293	13300
1	120	15	STCC	0.154	0.196	0.124	0.149	300	339	16800
1	150	15	STCC	0.126	0.161	0.119	0.142	320	389	21000
1	185	18	STCC	0.100	0.128	0.116	0.139	340	444	25900
1	240	23	STCC	0.0762	0.0972	0.112	0.134	380	522	33600
1	300	28	STCC	0.0607	0.0774	0.108	0.130	410	601	42000
1	400	35	STCC	0,0475	0,0606	0.105	0.126	490	690 dc / 670 ac	56000
3	16	31	STCC	1.16	1.48	0.143	0.172	170	67	2240
3	25	35	STCC	0.734	0.936	0.133	0.160	190	89	3500
3	35	35	STCC	0.529	0.675	0.128	0.153	200	110	4900
3	50	35	STCC	0.391	0.499	0.121	0.145	220	137	7000
3	70	35	STCC	0.270	0.344	0.115	0.135	250	169	9800
3	95	50	STCC	0.195	0.249	0.109	0.131	270	205	13300
3	120	60	STCC	0.154	0.196	0.105	0.126	300	237	16800
3	150	75	STCC	0.126	0.161	0.102	0.122	320	272	21000
3	185	45	STCC	0.100	0.128	0.099	0.118	340	311	25900
3	240	55	STCC	0.0762	0.0972	0.095	0.114	380	365	33600

## Ambient temperature correction factors

Ambient Temp °C	35	40	45	50	55	60	65	70	75	80
Rating factor	1.10	1.05	1.00	0.94	0.88	0.82	0.74	0.67	0.58	0.47

## Installation recommendations

Minimum Bending Radius during Installation	Minimum Bending Radius Fixed Installed	Maximum Tensile Load During Installation	Minimum Installation Temperature
15 x D	9 x D	50 N /mm <sup>2</sup>	-20°C



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