

RFOU 3.6/6(7.2)kV,
6/10(12)kV,
8.7/15(17.5)kV

Flame Retardant, LSHF Cables



Application

- Fixed installation in both explosion risk and safe areas
- Medium voltage power cables for general purposes
- Maximum operating conductor temperature 85 degree
- Flame retardant to IEC 60332-3 AF
- Low smoke to IEC 61034-2
- Halogen free to IEC 60754-1 & 2
- Oil resistant to IEC 60092-359
- Mud resistant to NEK 606 (RFOB)

Applied Standards

- IEC 60092-354 Design guidelines
- NEK 606 OLF Cable type
- IEC 60332-3 Flame retardance Category AF
- IEC 60754-1 & 2 Halogen Free Properties
- IEC 61034-2 Low Smoke Properties

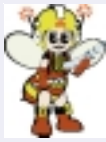
Construction Details

- Conductor**
Circular tinned stranded copper as per IEC 60228 & 60228A
- Conductor Screen**
Semi-conducting compound, extruded
- Insulation**
Halogen-free Ethylene propylene rubber (HF-EPR) as per IEC 60092-351, Triple-head extruded & dry-cured
- Insulation Screen**
Semi-conducting compound, extruded, Easy strippable
- Metallic Screen**
Tinned copper wire braid at least 0.2mm or Copper tape, 0.1mm thickness
- Core assembly**
Cabled with non-hygroscopic fillers and the binder tape may be applicable
- Bedding**
Halogen-free compound(inner covering)
- Armour**
Copper wire braid as per IEC 60092-354
- Outer Sheath**
Halogen-free thermoset compound as per IEC 60092-359, SHF2

RFCU =with galvanized steel wire braid
RFOB/RFCB =recommended for use in areas exposed to Mud,
these cables have a halogen content =< 5%

LSHF Flame Retardant Power Cable

	No. of core & conductor area	Conductor diameter max.	Insulation thickness	Diameter over bedding		Nominal overall diameter	Approx. net weight	Conductor resistance (20)	Reactance at		Current rating at 45	Short current rating(1sec)
				mm	mm				ohm/km	ohm/km		
	mm ²	mm	mm	mm	mm	mm	kg/km	ohm/km	ohm/km	ohm/km	Amp.	kA
RFOU 3.6/6 (7.2)kV Single Conductor	1x 25	6.6	3.0	20.1 _i 0.8	24.3 _i 1.0	990	0.734	0.129	0.154	120	3.65	
	1x 35	7.9	3.0	21.3 _i 0.9	25.7 _i 1.0	1,140	0.529	0.123	0.148	145	5.10	
	1x 50	9.1	3.0	22.8 _i 0.9	27.2 _i 1.1	1,330	0.391	0.119	0.143	180	7.29	
	1x 70	11.0	3.0	24.6 _i 1.0	29.2 _i 1.2	1,620	0.270	0.113	0.136	225	10.21	
	1x 95	12.9	3.0	26.7 _i 1.1	31.3 _i 1.3	1,960	0.195	0.109	0.130	275	13.85	
	1x 120	14.5	3.0	28.5 _i 1.1	33.8 _i 1.3	2,340	0.154	0.107	0.128	320	17.50	
	1x 150	16.2	3.0	30.0 _i 1.2	34.8 _i 1.4	2,620	0.126	0.103	0.123	365	21.87	
	1x 185	18.0	3.0	32.1 _i 1.3	37.6 _i 1.5	3,230	0.100	0.101	0.121	415	26.98	
	1x 240	20.6	3.0	34.9 _i 1.4	40.4 _i 1.6	3,920	0.0762	0.098	0.117	490	35.00	
	1x 300	23.1	3.0	37.5 _i 1.5	43.2 _i 1.7	4,660	0.0607	0.095	0.114	560	43.75	
RFOU 3.6/6 (7.2)kV Three Conductor	3x 25	6.6	3.0	42.2 _i 1.7	48.1 _i 1.9	3,760	0.734	0.107	0.129	84	3.65	
	3x 35	7.9	3.0	45.0 _i 1.8	51.1 _i 2.0	4,360	0.529	0.102	0.123	100	5.10	
	3x 50	9.1	3.0	48.0 _i 1.9	54.3 _i 2.2	5,060	0.391	0.099	0.119	125	7.29	
	3x 70	11.0	3.0	52.3 _i 2.1	58.8 _i 2.4	6,180	0.270	0.094	0.113	160	10.21	
	3x 95	12.9	3.0	56.6 _i 2.3	63.3 _i 2.5	7,460	0.195	0.091	0.109	195	13.85	
	3x 120	14.5	3.0	60.4 _i 2.4	67.3 _i 2.7	8,680	0.154	0.088	0.106	225	17.50	
	3x 150	16.2	3.0	63.9 _i 2.6	71.0 _i 2.8	9,940	0.126	0.086	0.103	255	21.87	
	3x 185	18.0	3.0	67.5 _i 2.7	74.5 _i 2.9	11,670	0.100	0.084	0.101	290	28.90	
RFOU 3.6/6 (7.2)kV Three & Earth Conductor	3x 25+E	6.6	3.0	46.1 _i 1.8	52.0 _i 2.1	4,390	0.734	0.107	0.129	84	3.65	
	3x 35+E	7.9	3.0	49.5 _i 2.0	55.6 _i 2.2	5,170	0.529	0.102	0.123	100	5.10	
	3x 50+E	9.1	3.0	52.1 _i 2.1	58.4 _i 2.3	5,850	0.391	0.099	0.119	125	7.29	
	3x 70+E	11.0	3.0	56.4 _i 2.3	62.9 _i 2.5	7,080	0.270	0.094	0.113	160	10.21	
	3x 95+E	12.9	3.0	61.1 _i 2.4	67.8 _i 2.7	8,560	0.195	0.091	0.109	195	13.85	
	3x 120+E	14.5	3.0	65.4 _i 2.6	72.3 _i 2.9	10,070	0.154	0.088	0.106	225	17.50	
	3x 150+E	16.2	3.0	69.5 _i 2.8	76.6 _i 3.1	11,670	0.126	0.086	0.103	255	21.87	



3. Cable Construction Details

LSHF Flame Retardant Power Cable

No. of core & conductor area	Conductor diameter max.	Insulation thickness	Diameter over bedding		Nominal overall diameter		Approx. net weight	Conductor resistance 20 deg	Reactance at		Current rating at 45	Short current rating(1sec)
			mm	mm	mm	mm			kg/km	ohm/km		
RFOU 6/10 (12)kV Single Conductor												
1x 35	7.9	3.4	22.3	0.9	26.7	1.1	1,210	0.529	0.126	0.151	145	5.10
1x 50	9.1	3.4	23.6	0.9	28.0	1.1	1,380	0.391	0.121	0.145	180	7.29
1x 70	11.0	3.4	25.6	1.0	30.2	1.2	1,680	0.270	0.115	0.139	225	10.21
1x 95	12.9	3.4	27.7	1.1	32.3	1.3	2,030	0.195	0.111	0.133	275	13.85
1x 120	14.5	3.4	29.3	1.2	34.1	1.4	2,360	0.154	0.107	0.129	320	17.50
1x 150	16.2	3.4	31.0	1.2	36.3	1.5	2,840	0.126	0.105	0.127	365	21.87
1x 185	18.0	3.4	33.1	1.3	38.6	1.5	3,320	0.100	0.103	0.123	415	26.98
1x 240	20.6	3.4	35.9	1.4	41.6	1.7	4,030	0.0762	0.100	0.119	490	35.00
1x 300	23.1	3.4	38.5	1.5	44.2	1.8	4,760	0.0607	0.097	0.116	560	43.75
RFOU 6/10 (12)kV Three Conductor												
3x 25	6.6	3.4	44.1	1.8	50.2	2.0	4,010	0.734	0.110	0.132	84	3.65
3x 35	7.9	3.4	46.9	1.9	53.0	2.1	4,600	0.529	0.105	0.126	100	5.10
3x 50	9.1	3.4	49.9	2.0	56.2	2.2	5,310	0.391	0.101	0.122	125	7.29
3x 70	11.0	3.4	54.0	2.2	60.5	2.4	6,410	0.270	0.097	0.116	160	10.21
3x 95	12.9	3.4	58.5	2.3	65.2	2.6	7,750	0.195	0.093	0.111	195	13.85
3x 120	14.5	3.4	62.2	2.5	69.1	2.8	8,960	0.154	0.090	0.108	225	17.50
3x 150	16.2	3.4	65.8	2.6	72.9	2.9	10,260	0.126	0.088	0.105	255	21.87
RFOU 6/10 (12)kV Three & Earth Conductor												
3x 25+E	6.6	3.4	48.2 _i	1.9	54.3 _i	2.2	4,680	0.734	0.110	0.132	84	3.65
3x 35+E	7.9	3.4	51.4 _i	2.1	57.5 _i	2.3	5,420	0.529	0.105	0.126	100	5.10
3x 50+E	9.1	3.4	54.1 _i	2.2	60.4 _i	2.4	6,130	0.391	0.101	0.122	125	7.29
3x 70+E	11.0	3.4	58.5 _i	2.3	65.0 _i	2.6	7,390	0.270	0.097	0.116	160	10.21
3x 95+E	12.9	3.4	63.2 _i	2.5	69.9 _i	2.8	8,900	0.195	0.093	0.111	195	13.85
3x 120+E	14.5	3.4	67.4 _i	2.7	74.3 _i	3.0	10,400	0.154	0.090	0.108	225	17.50
3x 150+E	16.2	3.4	71.6 _i	2.9	78.7 _i	3.1	12,050	0.126	0.088	0.105	255	21.87

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No. of core & conductor area	Conductor diameter max.	Insulation thickness	Diameter over bedding		Nominal overall diameter		Approx. net weight	Conductor resistance 20deg	Reactance at		Current rating at 45	Short current rating(1sec)
			mm	mm	mm	mm			kg/km	ohm/km		
RFOU 8.7/15 (17.5)kV Single Conductor												
1x 35	7.9	4.5	24.5	1.0	29.1	1.2	1,350	0.529	0.131	0.157	145	5.10
1x 50	9.1	4.5	26.0	1.0	30.6	1.2	1,540	0.391	0.126	0.151	180	7.29
1x 70	11.0	4.5	28.0	1.1	32.6	1.3	1,850	0.270	0.120	0.144	225	10.21
1x 95	12.9	4.5	29.9	1.2	34.7	1.4	2,200	0.195	0.115	0.138	275	13.85
1x 120	14.5	4.5	31.7	1.3	37.2	1.5	2,690	0.154	0.113	0.135	320	17.50
1x 150	16.2	4.5	33.4	1.3	38.9	1.6	3,050	0.126	0.110	0.132	365	21.87
1x 185	18.0	4.5	35.3	1.4	40.8	1.6	3,500	0.100	0.106	0.128	415	26.98
1x 240	20.6	4.5	38.1	1.5	43.8	1.8	4,220	0.0762	0.103	0.123	490	35.00
1x 300	23.1	4.5	40.7	1.6	46.6	1.9	4,980	0.0607	0.100	0.120	560	43.75
RFOU 8.7/15 (17.5)kV Three Conductor												
3x 25	6.6	4.5	49.3	2.0	55.6	2.2	4,700	0.734	0.117	0.141	84	3.65
3x 35	7.9	4.5	52.1	2.1	58.6	2.3	5,340	0.529	0.112	0.134	100	5.10
3x 50	9.1	4.5	55.1	2.2	61.6	2.5	6,070	0.391	0.108	0.129	125	7.29
3x 70	11.0	4.5	59.2	2.4	65.9	2.6	7,220	0.270	0.103	0.123	160	10.21
3x 95	12.9	4.5	63.6	2.5	70.5	2.8	8,580	0.195	0.098	0.118	195	13.85
3x 120	14.5	4.5	67.3	2.7	74.4	3.0	9,840	0.154	0.095	0.114	225	17.50
3x 150	16.2	4.5	70.9	2.8	78.2	3.1	11,180	0.126	0.093	0.111	255	21.87
RFOU 8.7/15 (17.5)kV Three & Earth Conductor												
3x 25+E	6.6	4.5	57.0	2.2	60.3	2.4	5,500	0.734	0.117	0.141	84	3.65
3x 35+E	7.9	4.5	57.3	2.3	63.8	2.6	6,320	0.529	0.112	0.134	100	5.10
3x 50+E	9.1	4.5	60.0	2.4	66.7	2.7	7,070	0.391	0.108	0.129	125	7.29
3x 70+E	11.0	4.5	64.2	2.6	71.1	2.8	8,350	0.270	0.103	0.123	160	10.21
3x 95+E	12.9	4.5	68.9	2.8	76.0	3.0	9,920	0.195	0.098	0.118	195	13.85
3x 120+E	14.5	4.5	73.1	2.9	80.4	3.2	11,480	0.154	0.095	0.114	225	17.50
3x 150+E	16.2	4.5	77.3	3.1	84.8	3.4	13,180	0.126	0.093	0.111	255	21.87