

CONTINUOUS CURRENT CARRYING CAPACITY
for power cables rated voltage from 6 up to 35 kV

Table 1

NOMINAL CROSS-SECTIONAL AREA MM2	CONTINUOUS CURRENT CARRYING CAPACITY OF SINGLE CORE COPPER CONDUCTORS, A						
	Direct-buried in ground		Laid in single way ducts		In air		
	Trefoil	Flat	Trefoil	Flat	Trefoil	Tight flat formation	Flat formation with spacing
35	166	172	157	159	198	203	238
50	196	203	186	188	238	243	286
70	239	246	227	229	296	303	356
95	285	293	271	274	361	369	434
120	323	332	308	311	417	426	500
150	361	366	343	347	473	481	559
185	406	410	387	391	543	550	637
240	469	470	447	453	641	647	745
300	526	524	504	510	735	739	846
400	590	572	564	571	845	837	938
500	651	630	631	617	980	957	1056
630(625)	724	694	702	680	1113	1077	1182
800	795	756	771	741	1255	1203	1312

Table 2

NOMINAL CROSS-SECTIONAL AREA MM2	CONTINUOUS CURRENT CARRYING CAPACITY OF SINGLE CORE ALUMINUM CONDUCTORS, A						
	Direct-buried in ground		Laid in single way ducts		In air		
	Trefoil	Flat	Trefoil	Flat	Trefoil	Tight flat formation	Flat formation with spacing
35	129	134	122	123	154	157	185
50	152	157	144	146	184	189	222
70	186	192	176	178	230	236	278
95	221	229	210	213	280	287	338
120	252	260	240	242	324	332	391
150	281	288	267	271	368	376	440
185	317	324	303	307	424	432	504
240	367	373	351	356	502	511	593
300	414	419	397	402	577	586	677
400	470	466	451	457	673	676	769
500	526	522	505	512	786	785	881
630(625)	593	584	569	572	907	899	1001
800	664	647	637	634	1041	1024	1132

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Table 3

NOMINAL CROSS-SECTIONAL AREA MM ²	CONTINUOUS CURRENT CARRYING CAPACITY OF THREE CORE COPPER CONDUCTORS, A					
	Unarmored			Armored		
	Direct-buried in ground	Laid in single way ducts	In air	Direct-buried in ground	Laid in single way ducts	In air
35	153	133	170	154	134	172
50	181	158	204	181	158	205
70	221	193	253	220	194	253
95	262	231	304	263	232	307
120	298	264	351	298	264	352
150	334	297	398	332	296	397
185	377	336	455	374	335	453
240	434	390	531	431	387	529

Table 4

NOMINAL CROSS-SECTIONAL AREA MM ²	CONTINUOUS CURRENT CARRYING CAPACITY OF THREE CORE ALUMINUM CONDUCTORS, A					
	Unarmored			Armored		
	Direct-buried in ground	Laid in single way ducts	In air	Direct-buried in ground	Laid in single way ducts	In air
35	119	103	132	119	104	133
50	140	122	158	140	123	159
70	171	150	196	171	150	196
95	203	179	236	204	180	238
120	232	205	273	232	206	274
150	260	231	309	259	231	309
185	294	262	355	293	262	354
240	340	305	415	338	304	415

THE FOLLOWING CONDITIONS HAVE BEEN ASSUMED TO CALCULATE THE CURRENT RATINGS:

- CONTINUOUS PERMISSIBLE CONDUCTOR TEMPERATURE: 90 °C;
- GROUND TEMPERATURE: 20 °C;
- AMBIENT AIR TEMPERATURE: 30 °C;
- DEPTH OF BURIAL: 0,8 m;
- THERMAL RESISTIVITY OF SOIL: 1,5 K.M/W;
- THERMAL RESISTIVITY OF CERAMIC DUCTS: 1,2 K.M/W;
- CABLE METALLIC SCREEN IS BONDED TO EARTH GRIDS AT BOTH ENDS.

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The correction factors in the tables below can be used to determine the effect on the current ratings:

Table 5

AIR TEMPERATURE IN °C	20	25	35	40	45	50	55	60
Correction Factor	1,08	1,04	0,96	0,91	0,87	0,82	0,76	0,71

Table 6

GROUND TEMPERATURE IN °C	10	15	25	30	35	40	45	50
Correction Factor	1,07	1,04	0,96	0,93	0,89	0,85	0,80	0,76

Table 7

LAYING DEPTH IN METRES	CORRECTION FACTOR FOR SINGLE CORE CABLES		CORRECTION FACTOR FOR THREE CORE CABLES
	Cross-sectional area of conductor: up to and including 185 mm ²	Cross-sectional area of conductor: more than 185 mm ²	
0,50	1,04	1,06	1,04
0,60	1,02	1,04	1,03
1,00	0,98	0,97	0,98
1,25	0,96	0,95	0,96
1,50	0,95	0,93	0,95
1,75	0,94	0,91	0,94
2,00	0,93	0,90	0,93
2,50	0,91	0,88	0,91
3,00	0,90	0,86	0,90

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Table 8

NOMINAL CROSS-SECTIONAL AREA OF CONDUCTOR, MM ²	1 SECOND SHORT CIRCUIT-RATING OF CONDUCTOR (90-250°C) , kA	
	Aluminium cables	Copper cables
25	2,4	3,6
35	3,3	5,0
50	4,7	7,2
70	6,6	10,0
95	8,9	13,6
120	11,3	17,2
150	14,2	21,5
185	17,5	26,5
240	22,7	34,3
300	28,2	42,9
400	37,6	57,2
500	47,0	71,5
625	59,0	90,1
800	75,2	114,4

Table 9

NOMINAL CROSS-SECTIONAL AREA OF METALLIC SCREEN, MM ²	16	25	35	50	70	95	120
1 second short circuit-rating of metallic screen (70-350°C), mm ²	3,3	5,1	7,1	10,2	14,2	19,3	24,4

For a short-circuit duration other than 1 s, values of the short-circuit ratings indicated in tables No.8 and 9 must be multiplied by the correction factor: $k = 1/t$, where t is duration of the short circuit in seconds.