

Standard laying conditions		Other laying conditions	
Soil thermal resistivity	1.2K.m/W	$I_{standard}$ = Standard current rating in ducts	
Depth of burial	800mm	$I_{rated} = I_{standard} \times k_1 \times k_2 \times k_3 \times k_4$	
Soil temperature	25°C	k_1 = Table 1 k_2 = Table 2 k_3 = Table 3 k_4 = Table 4	

Table 1 – Rating factors for variation in soil temperature (k_1)

Max. Conductor Temperature °C	Soil temperature °C							
	10	15	20	25	30	35	40	45
70	1.15	1.11	1.05	1.00	0.94	0.88	0.82	0.74
80	1.13	1.09	1.04	1.00	0.95	0.90	0.85	0.80

Table 2 – Rating factor for variation in thermal resistivity of soil (k_2)

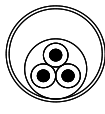

	Conductor size	Soil thermal resistivity K.m/W								
		0.7	0.8	0.9	1.0	1.2	1.5	2.0	2.5	3.0
3 Core cable 	mm ²	0.7	0.8	0.9	1.0	1.2	1.5	2.0	2.5	3.0
	16-35	1.07	1.06	1.04	1.03	1.00	0.96	0.91	0.86	0.82
	50-120	1.09	1.07	1.05	1.03	1.00	0.96	0.89	0.84	0.80
	150-300	1.11	1.08	1.06	1.04	1.00	0.95	0.89	0.82	0.77
3 Single Core cables 	150-240	1.14	1.11	1.08	1.05	1.00	0.94	0.86	0.79	0.74
	300-500	1.15	1.12	1.09	1.06	1.00	0.93	0.85	0.78	0.72
	630-1000	1.17	1.13	1.09	1.06	1.00	0.93	0.83	0.77	0.71

Table 3 – Rating factor for variation in depth of laying (k_3)

Depth of laying (m)	0.8	1.00	1.25	1.50	1.75	2.00	2.50	≥ 3.00
Single core	1.00	0.98	0.95	0.93	0.92	0.90	0.89	0.88
Three core	1.00	0.99	0.97	0.96	0.95	0.94	0.93	0.92



Table 4 – Group Rating factors installed in single way Ducts, horizontal formation (k₄)

Cable Voltage	Number of Cable Circuits	Touching			SPACING			
		Touching	300mm	450mm	600mm	Touching	450mm	600mm
Up to 22000 V	2	0.88	0.91	0.93	0.94	0.85	0.88	0.90
	3	0.80	0.84	0.87	0.89	0.75	0.80	0.83
	4	0.75	0.81	0.84	0.87	0.70	0.76	0.80
	5	0.71	0.77	0.82	0.85	0.67	0.73	0.77
	6	0.69	0.75	0.80	0.84	0.64	0.71	0.76
33000 V	2	0.87	0.89	0.92	0.93	0.85	0.88	0.90
	3	0.78	0.82	0.85	0.87	0.76	0.80	0.83
	4	0.73	0.78	0.82	0.85	0.71	0.76	0.80
	5	0.69	0.75	0.79	0.83	0.67	0.73	0.77
	6	0.67	0.73	0.78	0.82	0.65	0.71	0.76

Disclaimer: The cable rating factors are designed as a guide for calculation of a wide range of cable types and cables sizes. While single rating factors remain reasonably accurate, the more factors that are applied simultaneously, larger possible variances arise. While every effort has been made to ensure the information contained herein is correct, CBI-electric: african cables disclaim responsibility for any action, proceedings, liabilities, claims, damages, costs, losses and expense in relation to, or arising out of any use of the factors. Due to continuous improvement CBI-electric: african cables reserves the right to change the above without notice.



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