

Standard laying conditions		Other laying conditions	
Soil thermal resistivity	1.2K.m/W	$I_{standard}$	Standard current rating in ground
Depth of burial	1200mm	I_{rated}	$I_{rated} = I_{standard} \times k_1 \times k_2 \times k_3 \times k_4$
Soil temperature	25°C	k_1	Table 1
		k_2	Table 2
		k_3	Table 3
		k_4	Table 4

Table 1 – Rating factor for variation in thermal resistivity of soil (k_1)

Soil thermal resistivity K.m/W								
0.7	0.8	0.9	1.0	1.2	1.5	2.0	2.5	3.0
1.21	1.16	1.11	1.07	1.00	0.92	0.81	0.74	0.68

Table 2 – Rating factor for variation in soil temperature (k_2)

Soil temperature °C									
10	15	20	25	30	35	40	45	50	
1.11	1.08	1.04	1.0	0.96	0.92	0.88	0.83	0.78	

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

Depth of laying (m)	0.80	1.00	1.20	1.50	1.75	2.00	2.50	3.00
Rating factor	1.06	1.03	1.00	0.97	0.95	0.94	0.91	0.90

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Table 4 – Group Rating factors for circuits of three single core cables in Trefoil formation touching, laid direct in ground (Single Point/Cross Bonded Systems) (k4)

Number of Circuits in Trefoil						
	Touching	300mm	450mm	600mm	800mm	1000mm
2	0.78	0.80	0.83	0.85	0.88	0.89
3	0.66	0.69	0.73	0.76	0.79	0.81
4	0.60	0.64	0.68	0.71	0.75	0.78

Number of Circuits in Flat Formation						
	Touching	600mm	800mm	1000mm	1200mm	1400mm
2	0.80	0.85	0.87	0.89	0.90	0.91
3	0.69	0.75	0.78	0.81	0.83	0.84
4	0.63	0.70	0.74	0.78	0.80	0.82

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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