

D4058 Mumbida Wind Farm - 22kV Cable Sizes

Seq	Orientation - Cables		CSA	Length (Meters)			3 Phases%	Cable Specification
	From	To		measured	+20m	3%		
1	WTG-23	WTG-22	185mm ²	1188.7	1208.7	1245	3735	3x1C 185mm ² AL/XLPE/CSW/PVC/HDPE
2	WTG-22	WTG-21	240mm ²	755.1	775.1	799	2397	3x1C 240mm ² AL/XLPE/CSW/PVC/HDPE
3	WTG-21	WTG-16	400mm ²	1265.4	1285.4	1324	3972	3x1C 400mm ² AL/XLPE/CSW/PVC/HDPE
4	WTG-16	SS	400mm ²	1380.7	1400.7	1443	4329	3x1C 400mm ² AL/XLPE/CSW/PVC/HDPE
5	WTG-04	WTG-02	185mm ²	901.9	921.9	950	2850	3x1C 185mm ² AL/XLPE/CSW/PVC/HDPE
6	WTG-02	WTG-11	240mm ²	1890.1	1910.1	1968	5904	3x1C 240mm ² AL/XLPE/CSW/PVC/HDPE
7	WTG-06	WTG-11	185mm ²	780.4	800.4	825	2475	3x1C 185mm ² AL/XLPE/CSW/PVC/HDPE
8	WTG-11	SS	400mm ²	1549.0	1569.0	1617	4851	3x1C 400mm ² AL/XLPE/CSW/PVC/HDPE
9	WTG-05	WTG-09	185mm ²	608.0	628.0	647	1941	3x1C 185mm ² AL/XLPE/CSW/PVC/HDPE
10	WTG-14	WTG-13	185mm ²	528.0	548.0	565	1695	3x1C 185mm ² AL/XLPE/CSW/PVC/HDPE
11	WTG-09	WTG-13	240mm ²	554.5	574.5	592	1776	3x1C 240mm ² AL/XLPE/CSW/PVC/HDPE
12	WTG-13	WTG-15	400mm ²	827.7	847.7	874	2622	3x1C 400mm ² AL/XLPE/CSW/PVC/HDPE
13	WTG-15	SS	630mm ²	1007.6	1027.6	1059	3177	3x1C 630mm ² AL/XLPE/CSW/PVC/HDPE
14	WTG-32	WTG-31	185mm ²	706.6	726.6	749	2247	3x1C 185mm ² AL/XLPE/CSW/PVC/HDPE
15	WTG-31	WTG-25	185mm ²	536.4	556.4	574	1722	3x1C 185mm ² AL/XLPE/CSW/PVC/HDPE
16	WTG-25	WTG-17	240mm ²	554.9	574.9	593	1779	3x1C 240mm ² AL/XLPE/CSW/PVC/HDPE
17	WTG-17	WTG-26	300mm ²	952.9	972.9	1003	3009	3x1C 300mm ² AL/XLPE/CSW/PVC/HDPE
18	WTG-26	SS	630mm ²	1194.7	1214.7	1252	3756	3x1C 630mm ² AL/XLPE/CSW/PVC/HDPE
19	WTG-30	WTG-29	240mm ²	1302.7	1322.7	1363	4089	3x1C 240mm ² AL/XLPE/CSW/PVC/HDPE
20	WTG-29	WTG-28	400mm ²	785.9	805.9	831	2493	3x1C 400mm ² AL/XLPE/CSW/PVC/HDPE
21	WTG-28	WTG-27	400mm ²	718.1	738.1	761	2283	3x1C 400mm ² AL/XLPE/CSW/PVC/HDPE
22	WTG-27	SS	630mm ²	880.0	900.0	927	2781	3x1C 630mm ² AL/XLPE/CSW/PVC/HDPE
23	WTG019	SS	630mm ²	211.5	231.5	239	717	3x1C 630mm ² AL/XLPE/CSW/PVC/HDPE
24	TX 1 LV Box	22kV Switchgear	630mm ²	530	NA	NA	NA	3x1C 630mm ² Cu/XLPE/CSW/PVC/HDPE
25	TX 1 LV Box	Earthing Transformers	185mm ²	NA	NA	25	75	3x1C 185mm ² AL/XLPE/CSW/PVC/HDPE
26	TX 2 LV Box	22kV Switchgear	630mm ²	650	NA	NA	NA	3x1C 630mm ² Cu/XLPE/CSW/PVC/HDPE
27	TX 2 LV Box	Earthing Transformers	185mm ²	NA	NA	25	75	3x1C 185mm ² AL/XLPE/CSW/PVC/HDPE
28	22kV Switchgear	Auxiliary Tx	70mm ²	170	NA	NA	NA	3C 70mm ² AL/XLPE/CSW/PVC/HDPE
Earthing Cable								
29	N/A	N/A	95mm ²	13908	NA	NA	NA	SEQ 1-13 Bare Copper 22 kV Cu
30	N/A	N/A	95mm ²	8292	NA	NA	NA	SEQ 14-23 Bare Copper 22 kV Cu
31	N/A	N/A	120mm ²	1000	NA	NA	NA	Grid Bare Copper 0.6/1 kV Cu
32	N/A	N/A	120mm ²	1000	NA	NA	NA	Insulated Copper 120mm ²
Fiber Optic Cables								
33	N/A	N/A	TBA	13908	NA	NA	NA	12C Singlemode Fiber
34	N/A	N/A	TBA	8292	NA	NA	NA	12C Singlemode Fiber
35	N/A	N/A	TBA	1600	NA	NA	NA	12C Multimodemode Fiber

Summary			
CSA	1φ Length	3φ Length	Cable Specification
185mm ²	5,605	16,815	3x1C 185mm ² AL/XLPE/CSW/PVC/HDPE
240mm ²	5,315	15,945	3x1C 240mm ² AL/XLPE/CSW/PVC/HDPE
300mm ²	1,003	3,009	3x1C 300mm ² AL/XLPE/CSW/PVC/HDPE
400mm ²	6,850	20,550	3x1C 400mm ² AL/XLPE/CSW/PVC/HDPE
630mm ²	3,477	10,431	3x1C 630mm ² AL/XLPE/CSW/PVC/HDPE
630mm ²	1,180		1C 630mm ² Cu/XLPE/CSW/PVC/HDPE
70mm ²	170		3C 70mm ² AL/XLPE/CSW/PVC/HDPE (Vendor MOQ - 170 meters)
95mm ²	22,250		1C 95mm ² Bare Copper 0.6/1 kV Cu
120 mm ²	1,000		1C 120mm ² Bare Copper 0.6/1 kV Cu
185 mm ²	250		1C 185mm ² Cu/PVC 0.6/1 kV
TBA	24,250		12C Singlemode Fiber
TBA	1,200		12C Multimodemode Fiber

Rev.	Date	Revision Description	DR
A	8/11/2011	Draft	LJ
B	8/11/2011	Information Only	LJ
C	16/11/2011	Pleminary - Information Only	SV
0	10/12/2011	Issued for use	SN



A GE AND LEIGHTON CONTRACTORS CONSORTIUM

Power Cables				
Drum Category - A	Sequence Number	y-meters 1C AL 18	Drum Qty for	Total Numbers
A1	1 + 25 +27	1295	3 drum	12
A2	5 + 10	1515	3 drum	
A3	7 + 9	1472	3 drum	
A4	14 + 15	1323	3 drum	
Drum Category - B		1C AL 240mm ²		
B1	2 + 11	1391	3 drum	9
B2	6	1968	3 drum	
B3	16 + 19	1956	3 drum	
Drum Category - C		1C AL 300mm ²		
C1	17	1003	3 drum	3
Drum Category - D		1C AL 400mm ²		
D1	3	1324	3 drum	15
D2	4	1443	3 drum	
D3	8	1617	3 drum	
D4	12	874	3 drum	
D5	20 + 21	1592	3 drum	
Drum Category - E		1C AL 630mm ²		
E1	13	1059	3 drum	9
E2	18	1252	3 drum	
E3	22+23	1166	3 drum	
Drum Category - F		1C Cu 630mm ²		
F1	24	530	1 drum	2
F2	26	650	1 drum	
Drum Category - G		3C AL 3x70mm ²		
G1	28	170	1 drum	1
Earthing Cables				
Drum Category - H		1C Bare Cu 95mm ²		
H1	1 + 25 +27	1295	1 drum	16
H2	5 + 10	1515	1 drum	
H3	7 + 9	1472	1 drum	
H4	14 + 15	1323	1 drum	
H5	2 + 11	1391	1 drum	
H6	6	1968	1 drum	
H7	16 + 19	1956	1 drum	
H8	17	1003	1 drum	
H9	3	1324	1 drum	
H10	4	1443	1 drum	
H11	8	1617	1 drum	
H12	12	874	1 drum	
H13	20 + 21	1592	1 drum	
H14	13	1059	1 drum	
H15	18	1252	1 drum	
H16	22+23	1166	1 drum	
Drum Category - I		1C Bare Cu 120mm ²		
I1		1000	1 drum	1
Drum Category - J		1C Cu/PVC 185mm ²		
J1		250	1 drum	1
Drum Category - K		12C Singlemode Fiber		
K1	1	1295	1 drum	17
K2	5 + 10	1515	1 drum	
K3	7 + 9	1472	1 drum	
K4	14 + 15	1323	1 drum	
K5	2 + 11	1391	1 drum	
K6	6	1968	1 drum	
K7	16 + 19	1956	1 drum	
K8	17	1003	1 drum	
K9	3	1324	1 drum	
K10	4	1443	1 drum	
K11	8	1617	1 drum	
K12	12	874	1 drum	
K13	20 + 21	1592	1 drum	
K14	13	1059	1 drum	
K15	18	1252	1 drum	
K16	22+23	1166	1 drum	
K17	SPARE	2000	1 drum	
Drum Category - L		12C Multimode Fiber		
L1	35	1200	1 drum	1
Total				
Steel				51
Wooden				36
Total				87