



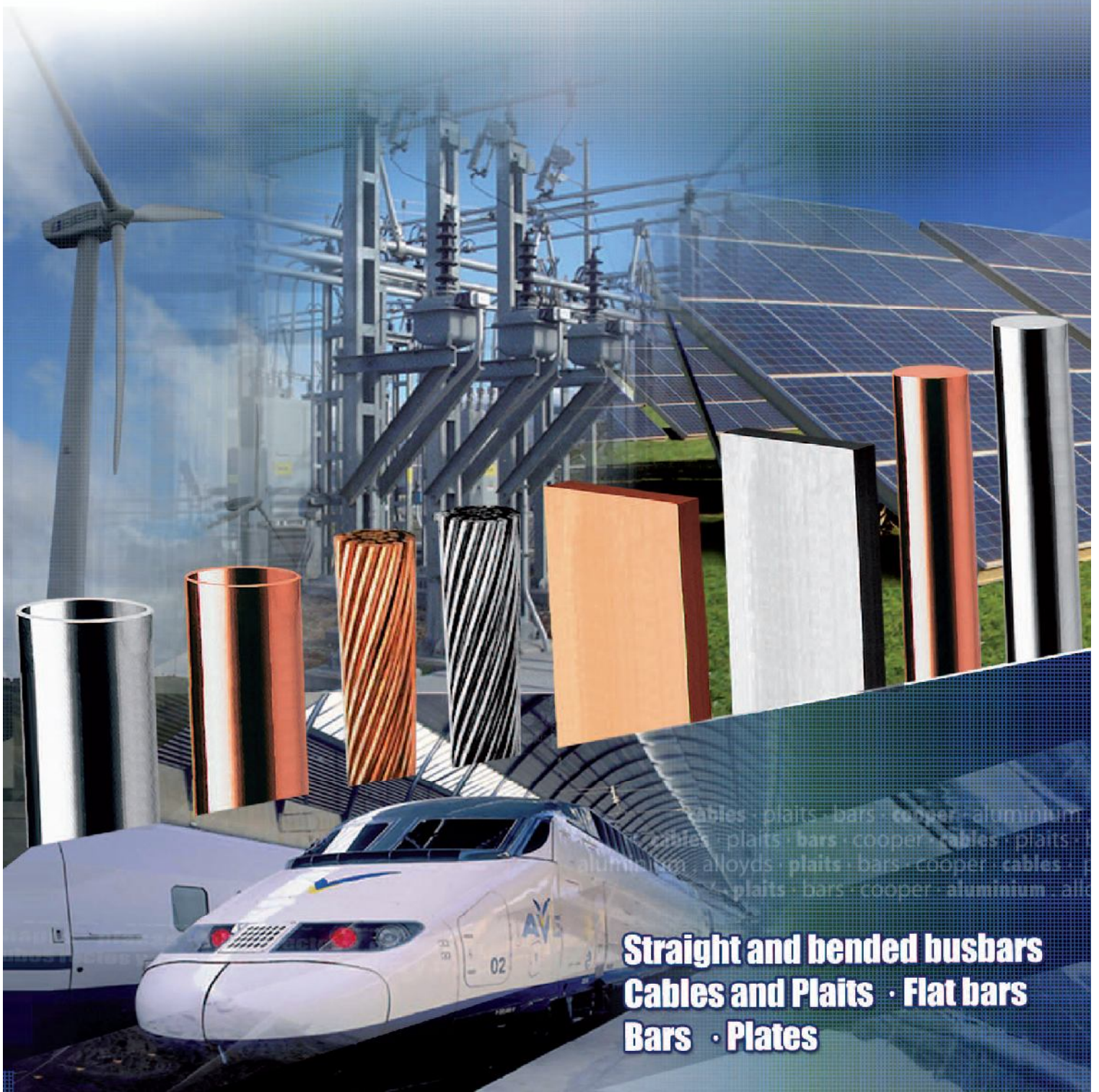
**Valgañón**  
**Metal Cable, s.l.**

ISO 9001

BUREAU VERITAS  
Certification



**COPPER · ALUMINIUM · ALLOYS**



**Straight and bended busbars**  
**Cables and Plaits · Flat bars**  
**Bars · Plates**



**Valgañón**  
Metal Cable, s.l.

# metal Cable

Valgañón Metal Cable, s.l. is a company specialized in the national and international power sector service. Its knowledge, technical informations and products are permanently demanded by the main electrical companies, large electrical installators and electrical engineering.

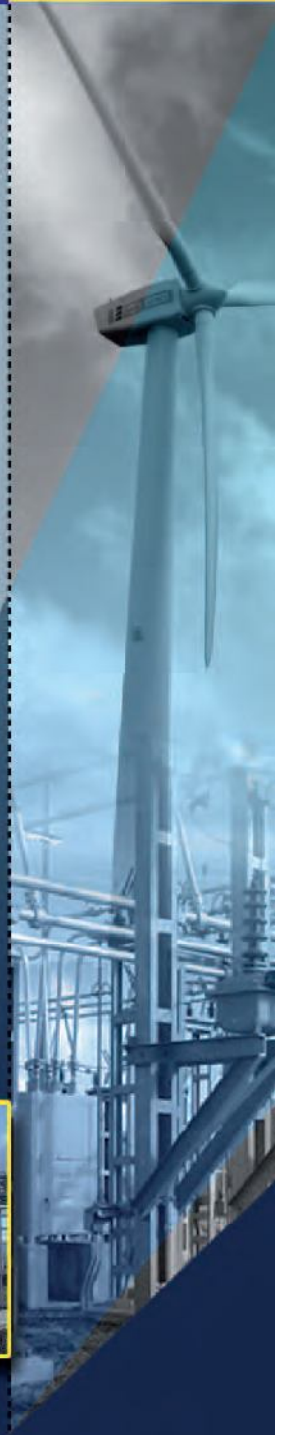
The people responsible of Valgañón Metal Cable, s.l. accumulate an experience of more than 30 years in companies that traditionally have attended to these sectors. Our main aim is to give the best service to clients.

Technical knowledge and will of service, together with products manufactured by leaders of the world market are the base of our quality guarantee, which is a key point in our business philosophy.



## Where our products are used

- Electrical substations
- Wind power plant
- Conventional and combined-cycle plants
- Aerial and earthing lines
- Electrification in conventional and high-speed railway lines
- Solar and photovoltaic power plants
- Industrial plants
- Construction and civil works
- Electrical panels
- Electrical machinery
- Industrial design



Visit our website  
[www.valganonmetalcable.com](http://www.valganonmetalcable.com)  
and consult more than  
2.400 projects supplied by us.



# Copper Cables



**COPPER CABLE CHARACTERISTICS**

Section mm <sup>2</sup> .	Stranding and wire diameter mm.	Approximate overall diameter mm.	Weight kg / km.	Nominal breaking load (Kgf.)		Admissible intensity (Amp.)
				Hard	Annealed	
1x10	7 x 1,35	4,05	89	457	216	40
1x16	7 x 1,70	5,10	143	707	352	61
1x25	7 x 2,14	6,42	223	1.099	550	95
1x35	7 x 2,52	7,56	312	1.470	770	140
1x50	7 x 3,02 19 x 1,78	9,06 8,90	445	2.100	1.100	190
1x70	19 x 2,14	10,70	623	2.940	1.540	247
1x95	19 x 2,52	12,60	846	3.990	2.090	298
1x120	19 x 2,85 37 x 2,03	14,25 14,21	1.070	5.040	2.640	350
1x150	19 x 3,20 37 x 2,25	16,00 15,80	1.335	6.300	3.300	420
1x185	37 x 2,52	17,65	1.647	7.770	4.070	455
1x240	37 x 2,85	19,95	2.140	10.080	5.280	540
1x300	37 x 3,20 61 x 2,52	22,40 22,68	2.670	12.600	6.600	615
1x400	61 x 2,85	25,65	3.560	16.800	8.800	800
1x500	61 x 3,20	28,80	4.450	21.000	11.000	1.000
1x630	61 x 3,62	32,60	5.607	26.460	13.860	1.260

# Aluminium, Aluminium-Steel, AW and Alloys Cables



**Due to the wide variety and extensive international Norms, if you are interested in any further information about these Cables, please do not hesitate to contact us by phone + 34 945 29 19 89 or E-mail [valganon@valganonmetalcable.com](mailto:valganon@valganonmetalcable.com)**

# A 6063 T6 Aluminium Tubes

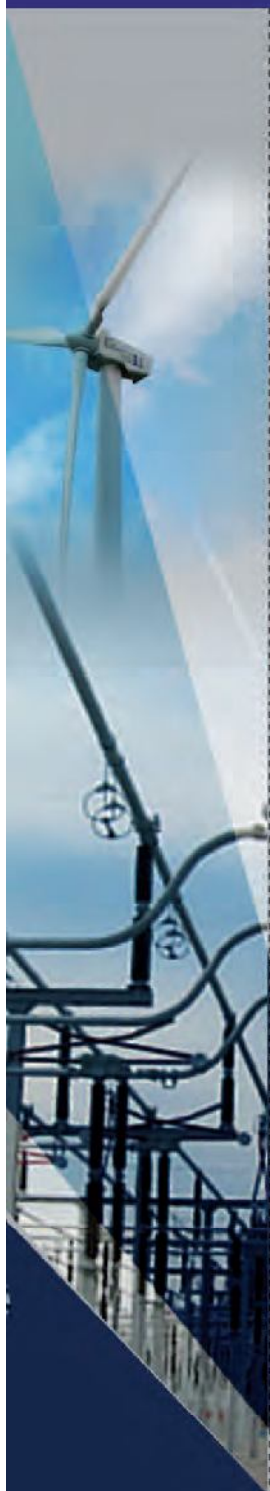
## 6063 T6 ALUMINIUM TUBES CHARACTERISTICS

Dimensions Ø outer x Ø inner mm.	Section mm <sup>2</sup> .	Weight kg/m.	Admissible Intensity Amp 80° C	Max. spacing between supports m (1)	Moment of Inertia cm <sup>4</sup> .	Resisting Bending Moment cm <sup>3</sup> .
40 / 35	295	0,800	785	5,40	5,20	2,07
40 / 34	349	0,942	820	5,65	6,00	2,42
40 / 32	452	1,200	928	5,90	7,42	3,06
40 / 30	550	1,484	980	6,50	8,59	3,63
45 / 40	334	0,901	870	5,60	7,56	2,66
50 / 44	443	1,196	940	6,40	12,28	3,91
50 / 42	578	1,600	1130	6,90	15,40	5,00
50 / 40	708	1,909	1260	7,50	18,11	5,99
60 / 50	864	2,330	1380	7,90	32,29	8,93
63 / 51	1075	2,901	1640	9,30	44,12	11,52
63 / 47	1382	3,730	1820	10,40	53,37	14,35
68 / 60	804	2,170	1250	7,60	41,33	9,66
70 / 60	1020	2,760	1550	9,20	54,24	12,47
80 / 72	955	2,580	1700	9,40	69,14	17,30
80 / 70	1180	3,181	1890	10,10	83,20	20,80
80 / 68	1394	3,766	2070	10,50	96,10	24,00
80 / 64	1809	4,900	2340	12,30	118,70	24,52
90 / 80	1335	3,604	2135	10,30	121,00	21,30
100 / 92	1205	3,257	2060	10,50	117,10	21,70
100 / 90	1495	4,029	2320	11,40	168,81	26,60
100 / 88	1770	4,784	2520	12,10	196,49	31,27
100 / 84	2312	6,200	2850	14,30	246,48	39,98
100 / 80	2827	7,600	3135	18,50	289,81	47,90
110 / 100	1650	4,453	2480	12,20	227,81	32,49
120 / 110	1806	4,880	2700	13,10	299,18	38,97
120 / 106	2485	6,710	3100	18,50	398,16	52,71
120 / 104	2815	7,600	3340	19,00	443,62	59,21
120 / 100	3456	9,330	3700	20,20	527,00	71,47
150 / 136	3145	8,491	3400	20,00	805,76	84,38
150 / 134	3567	9,631	3890	20,80	902,38	95,12
150 / 125	5340	14,570	4800	24,00	1286,63	139,59
160 / 140	4712	12,700	4710	24,00	1331,25	132,73
160 / 148	2903	7,840	3760	19,00	862,00	108,00
200 / 190	3063	8,270	4165	24,00	1456,87	112,01
200 / 188	3657	9,900	4535	24,00	1722,00	133,05
200 / 184	4825	13,000	5150	24,00	2227,44	173,81
200 / 180	5696	16,100	5690	24,00	2701,00	212,84
250 / 238	4599	12,400	5470	24,00	3424,87	210,46
250 / 230	7540	20,400	6870	24,00	5438,10	339,48
250 / 228	8259	22,300	6930	24,00	5090,71	370,38

(1) Maximum length of manufacturing 24 m.



# Copper Tubes

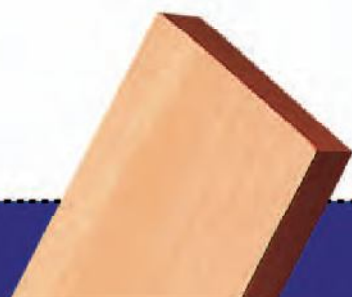


## COPPER TUBES CHARACTERISTICS

Dimensions Ø outer x Ø inner mm.	Section mm <sup>2</sup> .	Weight Kg/m.	Admissible Intensity Amp 20° C	Max. spacing between supports m.	Moment of Inertia cm <sup>4</sup> .	Resisting Bending Moment cm <sup>3</sup> .
20 / 16	113	1,012	324	3,40	0,46	0,380
25 / 20	176,7	1,580	454	4,15	1,13	0,740
25 / 19	207	1,860	530	5,10	1,27	0,860
30 / 20	389	3,500	942	7,10	3,19	1,860
30 / 25	216	1,930	550	4,70	2,05	1,116
33 / 27	283	2,540	698	5,50	3,21	1,595
35 / 30	255	2,280	645	5,30	3,39	1,558
40 / 35	294	2,630	740	5,80	5,20	2,070
40 / 34	349	3,140	859	6,10	6,00	2,420
40 / 30	550	4,950	1.327	7,20	8,59	3,630
45 / 40	334	2,990	840	6,30	7,56	2,660
45 / 39	396	3,560	959	6,90	8,77	3,120
50 / 45	373	3,340	906	6,80	10,55	3,320
50 / 44	443	3,990	1.071	7,10	12,28	3,910
50 / 42	578	5,200	1.354	7,30	15,40	4,998
50 / 40	706	6,360	1.421	7,60	18,11	5,988
60 / 50	865	7,800	1.550	8,20	32,29	8,930
60 / 55	451	4,040	1.120	7,80	18,69	4,871
63 / 51	1.074	9,670	1.939	9,50	44,12	11,520
70 / 60	1.025	9,050	1.820	9,20	54,24	12,470
80 / 70	1.180	10,500	2.095	10,00	83,20	20,800
80 / 64	1.810	16,280	2.896	12,00	118,70	24,520
100 / 90	1.492	13,300	2.640	11,60	168,80	26,600



# Copper Flat Bars



**COPPER FLAT BARS CHARACTERISTICS**

Dimensions mm.	Section mm <sup>2</sup> .	Weight Kg/m.	ADMISSIBLE INTENSITY Amp (a.c.)			Dimensions mm.	Section mm <sup>2</sup> .	Weight Kg/m.	ADMISSIBLE INTENSITY Amp (a.c.)		
			1 Unit Copper Flat Bar per phase	2 Units Copper Flat Bar per phase	3 Units Copper Flat Bar per phase				1 Unit Copper Flat Bar per phase	2 Units Copper Flat Bar per phase	3 Units Copper Flat Bar per phase
10x2	20	0,180	90	145	202	50x4	200	1,800	500	856	1.160
10x3	30	0,270	115	187	258	50x5	250	2,250	565	970	1.310
10x4	40	0,360	145	238	325	50x6	300	2,700	625	1.074	1.450
10x5	50	0,450	170	272	370	50x8	400	3,600	795	1.320	1.935
15x3	45	0,405	158	255	348	50x10	500	4,500	810	1.350	1.980
15x4	60	0,540	190	310	424	60x4	240	2,160	560	958	1.275
15x5	75	0,675	214	343	449	60x5	300	2,700	657	1.124	1.550
20x2	40	0,360	155	254	348	60x6	360	3,240	724	1.240	1.700
20x3	60	0,540	194	317	435	60x8	480	4,320	846	1.448	1.980
20x4	80	0,720	227	363	476	60x10	600	5,400	975	1.628	2.500
20x5	100	0,900	265	425	556	80x5	400	3,600	818	1.386	1.970
20x6	120	1,080	301	525	715	80x6	480	4,320	900	1.528	2.180
20x10	200	1,800	460	795	1.050	80x8	640	5,760	1.036	1.750	2.478
25x5	125	1,125	320	515	670	80x10	800	7,200	1.190	2.000	2.880
25x10	250	2,250	515	900	1.182	100x5	500	4,500	960	1.600	2.400
30x3	90	0,810	277	455	630	100x6	600	5,400	990	1.650	2.556
30x4	120	1,080	325	540	740	100x8	800	7,200	1.260	2.056	3.069
30x5	150	1,350	369	610	810	100x10	1.000	9,000	1.400	2.340	3.500
30x6	180	1,620	445	765	1.025	120x5	600	5,400	1.005	1.670	2.600
30x8	240	2,160	510	888	1.175	120x6	720	6,480	1.150	1.755	2.704
30x10	300	2,700	566	930	1.230	120x10	1.200	10,800	1.505	2.420	3.625
40x3	120	1,080	320	534	730	120x15	1.800	16,200	2.550	4.175	6.250
40x4	160	1,440	416	716	955	120x20	2.400	21,600	1.920	4.710	7.095
40x5	200	1,800	470	810	1.075	125x5	625	5,625	1.032	1.692	2.645
40x6	240	2,160	520	900	1.190	125x10	1.250	11,250	1.545	2.462	3.670
40x8	320	2,880	635	1.020	1.385	150x5	750	6,750	1.200	1.807	2.760
40x10	400	3,600	710	1.100	1.472	150x10	1.500	13,500	1.980	3.200	4.655



# Copper Bars



ROUND COPPER BARS					
Diameter mm.	Weight Kg/m.	Diameter mm.	Weight Kg/m.	Diameter mm.	Weight Kg/m.
10	0,702	34	8,117	58	23,620
11	0,849	35	8,601	59	24,442
12	1,011	36	9,100	60	25,277
13	1,187	37	9,613	61	26,127
14	1,376	38	10,139	62	26,991
15	1,580	39	10,679	63	27,868
16	1,798	40	11,234	64	28,760
17	2,030	41	11,803	65	29,666
18	2,275	42	12,386	66	30,586
19	2,535	43	12,983	67	31,520
20	2,809	44	13,594	68	32,467
21	3,097	45	14,219	69	33,429
22	3,399	46	14,858	70	34,405
23	3,715	47	15,511	71	35,395
24	4,045	48	16,178	72	36,400
25	4,389	49	16,859	73	37,417
26	4,747	50	17,554	74	38,450
27	5,119	51	18,263	75	39,496
28	5,505	52	18,986	80	44,938
29	5,905	53	19,723	85	50,730
30	6,319	54	20,475	90	56,874
31	6,748	55	21,240	95	63,369
32	7,190	56	22,019	100	70,215
33	7,647	57	22,813	110	84,960