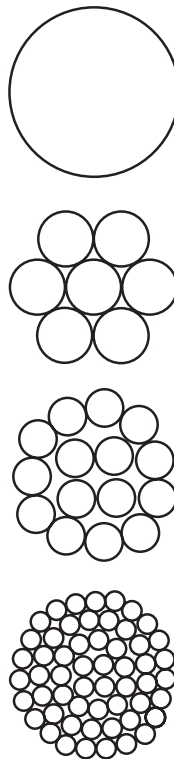


# EUROPEAN CABLE STRANDING

acc. to VDE 0295 and IEC 60228

Cross section mm <sup>2</sup>	DIN VDE 0295 class 5/IEC 60228		DIN VDE 0295 class 6/IEC 60228		acc. to DIN VDE 0812	
	No. of wires	max. wire-ø mm/mil	No. of wires	max. wire-ø mm/mil	No. of wires	Nominal wire-ø mm/mil
0.14					18	x 0.10/3.94
0.25					14	x 0.15/5.91
0.34					7	x 0.25/9.84
0.50	15/17	x 0.21/8.27	28/31	x 0.16/6.30	15/17	x 0.20/7.87
0.75	23	x 0.21/8.27	42	x 0.16/6.30	23	x 0.20/7.87
1.00	30	x 0.21/8.27	56	x 0.16/6.30	30	x 0.20/7.87
1.50	27-29	x 0.26/10.24	84	x 0.16/6.30	27-29	x 0.25/9.84
2.50	46	x 0.26/10.24	140	x 0.16/6.30	46	x 0.25/9.84
4.00	52	x 0.31/12.20	224	x 0.16/6.30		
6.00	78	x 0.31/12.20	192	x 0.21/8.27		
10.00	77	x 0.41/16.14	320	x 0.21/8.27		
16.00	119	x 0.41/16.14	512	x 0.21/8.27		
25.00	196	x 0.41/16.14	512	x 0.21/8.27		
35.00	280	x 0.41/16.14	798	x 0.21/8.27		
50.00	400	x 0.41/16.14	703	x 0.31/12.20		
70.00	554	x 0.41/16.14	2220	x 0.31		
95.00	484	x 0.51/20.08				
120.00	589	x 0.51/20.08				
150.00	740	x 0.51/20.08				
185.00	902	x 0.51/20.08				
240.00	1220	x 0.51/20.08				
300.00	1525	x 0.51/20.08				



## COMPARISON EUROPEAN/AMERICAN CABLE STRANDING

Nominal diameter of copper conductor

mm <sup>2</sup>	AWG/MCM	mm <sup>2</sup>	AWG/MCM	mm <sup>2</sup>	AWG/MCM	mm <sup>2</sup>	AWG/MCM	mm <sup>2</sup>	AWG/MCM	mm <sup>2</sup>	AWG/MCM
0.08	= 28	0.50	= 20	2.50	= 14	16.00	= 6	70.00	= 2/0	185.00	= 350
0.14	= 26	0.75	= 19	4.00	= 12	25.00	= 4	95.00	= 3/0	240.00	= 450
0.25	= 24	1.00	= 18	6.00	= 10	35.00	= 2	120.00	= 4/0	300.00	= 550
0.34	= 22	1.50	= 16	10.00	= 8	50.00	= 1	150.00	= 250		

# AMERICAN CABLE STRANDING

## AWG = actual mm<sup>2</sup> and Resistance

AWG is shown below with its exact equivalent value in mm<sup>2</sup> and diameter (mm).

The table on the previous page shows commercially used equivalent values, which are approximations.

AWG Number	Cross Section mm <sup>2</sup>	Diameter mm	Conductor resistance /km
1000 MCM	507	29.3	0.036
900	456	27.8	0.04
750	380	25.4	0.048
600	304	22.7	0.061
550	279	21.7	0.066
500	253	20.7	0.07
450	228	19.6	0.08
400	203	18.5	0.09
350	177	17.3	0.10
300	152	16.0	0.12
250	127	14.6	0.14
4/0	107.2	11.68	0.18
3/0	85.0	10.40	0.23
2/0	67.4	9.27	0.29
0	53.4	8.25	0.37
1	42.4	7.35	0.47
2	33.6	6.54	0.57
3	26.7	5.83	0.71
4	21.2	5.19	0.91
5	16.8	4.62	1.12
6	13.3	4.11	1.44
7	10.6	3.67	1.78
8	8.34	3.26	2.36
9	6.62	2.91	2.77
10	5.26	2.59	3.64
11	4.15	2.30	4.44
12	3.31	2.05	5.41
13	2.63	1.83	7.02

AWG Number	Cross Section mm <sup>2</sup>	Diameter mm	Conductor resistance /km
14	2.08	1.63	8.79
15	1.65	1.45	11.2
16	1.31	1.29	14.7
17	1.04	1.15	17.8
18	0.8230	1.0240	23.0
19	0.6530	0.9120	28.3
20	0.5190	0.8120	34.5
21	0.4120	0.7230	44.0
22	0.3240	0.6440	54.8
23	0.2590	0.5730	70.1
24	0.2050	0.5110	89.2
25	0.1630	0.4550	111.0
26	0.1280	0.4050	146.0
27	0.1020	0.3610	176.0
28	0.0804	0.3210	232.0
29	0.0646	0.2860	282.0
30	0.0503	0.2550	350.0
31	0.0400	0.2270	446.0
32	0.0320	0.2020	578.0
33	0.0252	0.1800	710.0
34	0.0200	0.1600	899.0
35	0.0161	0.1430	1125.0
36	0.0123	0.1270	1426.0
37	0.0100	0.1130	1800.0
38	0.00795	0.1010	2255.0
39	0.00632	0.0897	2860.0

1 CM = 1 Circ. mil = 0.0005067 mm<sup>2</sup>

1 MCM = 1000 Circ. mils = 0.5067 mm<sup>2</sup>

4/0 is also known as 0000; 1 mil = 0.0254 mm

\*Shown in MCM (circular mils) for bigger cross sections

## UL/CSA current-carrying capacity for flexible cables

### Hook-up wire at ambient temperature up to 30 °C

AWG	cross section mm <sup>2</sup>	current-carrying capacity
24	0.21	3.5
22	0.33	5.0
20	0.52	6.0
18	0.82	9.5
16	1.31	20
14	2.08	24
12	3.32	34

AWG	cross section mm <sup>2</sup>	current-carrying capacity
10	5.26	52
8	8.35	75
6	13.29	95
4	21.14	120
3	26.65	154
2	33.61	170
1	42.38	180

### Correction-factors at ambient temperature over 30°C

For temperatures over 30 °C, multiply the current-carrying capacity in the tables times correction-factor (f) to obtain the allowable current.

Ambient temperature °C	current-carrying capacity values of tables correction-factors (f)
31 - 35	0.91
36 - 40	0.82
41 - 45	0.71
46 - 50	0.58

### Multi conductor cables at ambient temperature up to 30°C

AWG	cross section mm <sup>2</sup>	current-carrying capacity A (no. of conductors)				
		up to 3	4 - 6	7 - 24	25 - 42	43 & above
24	0.21	2	1.6	1.4	1.2	1.0
22	0.33	3	2.4	2.1	1.8	1.5
20	0.52	5	4.0	3.5	3.0	2.5
18	0.82	7	5.6	4.9	4.2	3.5
16	1.31	10	8.0	7.0	6.0	5.0
14	2.08	15	12.0	10.5	9.0	7.5
12	3.32	20	16.0	14.0	12.0	10.0

AWG	cross section mm <sup>2</sup>	current-carrying capacity A (no. of conductors)				
		up to 3	4 - 6	7 - 24	25 - 42	43 & above
10	5.26	30	24	21	18	15
8	8.35	40	32	28	24	20
6	13.29	55	44	38	33	27
4	21.14	70	56	49	42	35
3	26.65	80	64	56	48	40
2	33.61	95	76	66	57	47
1	42.38	110	88	77	66	55