

Number of Strands by Stranding Class in North American Class Copper and IEC Copper Wire Classes © 2025 Advancement International Ltd.

Table Notes

Table organized top to bottom, smallest to largest wire size (AWG/kcmil/mm2/Circular Mils), and left to right approximate flexibility of the wire, least to most flexible. IEC and North American wire classes do not have exact comparison for stranding or flexibility and use different standards for defining a class of wire. For further detail on strand diameter in IEC class wires see <https://lugsdirect.com/iec-metric-mm2-strand-size-count.html>

*Based on IEC 60228/BS 6360 Conductors for Insulated Cables

**Based on UL486F Table A.1 Stranding for North American Class Copper Conductors

***Based on UL486A-B Table E1.3 Conductor Stranding for Class B and IEC Class 2, Aluminum and Copper Conductors

IEC mm2 and AWG do not match up well, so depending on the application the size may need to be upsized if AWG falls short of the mm2 size and vise versa. MCM & kcmil are the same. ## The number of strands to IEC 60228/BS 6360 Rigid (r) stranding classes 1 & 2 is mandatory. ### Stranding counts shown in Flex (f) stranding classes 5 & 6 may have less strands if resistance Ohm/km is maintained. For further detail on ohm/km in IEC class wires see <https://lugsdirect.com/iec-metric-mm2-strand-size-count.html>

@Conductor sizes in Circular Mils (CM) and Square millimeters, when not provided directly from corresponding IEC and UL486 Tables, are calculated using the following formulas:

$$A_n = \left(5 \times 92^{\frac{36-n}{39}} \right)^2 = (5 \times 92^{((36-AWG) \times 1/39)})^2$$

CM to mm2
x 50670.75 x10^-8

$$AWG = 36 - \frac{39}{2 \cdot \log_{10}(92)} \cdot \log_{10} \left(\frac{CM}{25} \right)$$



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Conductor Size			Number of Strands by Wire Class (generally getting finer stranded from left to right)															
Circular Mils(@)	Conductor size AWG/kcmil	Square millimeters (@)	IEC Class 1 (*, #, ##)	North American Class AA (**)	North American Class A (**)	IEC Class 2 compact (***, #, ##)	North American Class B (**)	IEC Class 2 (***, #, #)	North American Class C (**)	North American Class D (**)	North American Class G (**)	North American Class H (**)	DLO Cable (24 AWG Strands) (**)	North American Class I (24 AWG strands)(**)	IEC Class 5 (*, ##, ###)	IEC Class 6 (*, #, ###)	North American Class K (30 AWG Strands)(**)	North American Class M (34 AWG Strands)(**)
404-101	24-30	(0.20)-(0.02)					Number of strands vary											
404	24	(0.20)					7		19									
642	22	(0.33)					7		19									
1,043		0.50	1			—		7							16	28		
1,022	20	(0.52)					7		19								10	26
1,485		0.75				—		7										
1,620	18	(0.82)				—	7	7	19								16	41
2,101		1.00	1			—		7							32	56		
2,580	16	(1.30)				7	7	7	19								26	65
3,048		1.50	1			6		7							30	84		
4,110	14	(2.08)				7	7	7	19	37	49		19				41	104
4,871		2.50	1			6		7							50	140		
6,530	12	(3.31)				7	7	7	19	37	49		19				65	168
7,839		4.00	1			6		7							56	224		
10,380	10	(5.26)				7	7	7	19	37	49		27	26			105	259
11,735		6.00	1			6		7							84	192		
16,510	8	(8.40)				7	7	7	19	37	49	133	37	41			168	420
19,774		10.00	1			6		7							80	320		
26,240	6	(13.30)				7	7	7	19	37	49	133	61	63			266	665
31,357		16.00	1			6		7							128	512		
26,240	4	(13.30)		3	7	7	7	7	19	37	49	133	105	105			420	1064
49,689		25.00	—			6		7							200	800		
52,620	3	(26.67)		3	7	7	7	7	19	37	49	133	125	133			532	1323
66,360	2	(33.62)		3	7	7	7	7	19	37	49	133	147	161			625	1666
68,902		35.00	—			6		7							280	1120		
83,690	1	(42.40)		3	7	18	19	19	37	61	133	259	210	210			836	2090

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Circular Mils(Ø)	Conductor size AWG/kcmil	Square millimeters (Ø)	IEC Class 1 (*, #, ##)	North American Class AA (**)	North American Class A (**)	IEC Class 2 compact (***, #, ##)	North American Class B (**)	IEC Class 2 (***, #, #)	North American Class C (**)	North American Class D (**)	North American Class G (**)	North American Class H (**)	DLO Cable (24 AWG Strands) (**)	North American Class I (24 AWG strands)(**)	IEC Class 5 (*, #, ###)	IEC Class 6 (*, #, ###)	North American Class K (30 AWG Strands)(**)	North American Class M (34 AWG Strands)(**)
93,310		50.00	–			6		19							400	705		
105,600	1/0	(53.49)		7	7	18	19	19	37	61	133	259	266	266			990	2646
133,100	2/0	(67.43)		7	7	18	19	19	37	61	133	259	323	342			1248	3325
134,869		70.00	–			12		19							356	990		
167,800	3/0	(85.01)		7	7	18	19	19	37	61	133	259	418	418			1666	4180
187,020		95.00	–			15		19							485	1340		
211,600	4/0	(107.20)		7	7	18	19	19	37	61	133	259		532			2055	5320
222,200	222.2	(112.59)											550					
236,334		120.00	–			18		37							614	1690		
250,000	250	(127.00)		12	19	35	37	37	61	91	259	427		637			2499	6384
262,600	262.6	(133.06)											650					
290,335		150.00	–			18		37							765	2123		
300,000	300	152.00		12	19	35	37	37	61	91	259	427		735			2989	7581
313,300	313.3	(158.75)											775					
350,000	350	(177.00)		12	19	35	37	37	61	91	259	427		882			3450	8806
364,196	364	185.00	–			30		37							944	1470		
373,700	373.7	(189.35)											925					
400,000	400	(203.00)		19	19	35	37	37	61	91	259	427		980			3990	10101
444,000	444	(224.97)											1100					
478,660	479	240.00	–			34		37							1225	1905		
500,000	500	(253.00)		19	37	35	37	37	61	91	259	427		1225			5054	12691
535,300	535.3	(271.24)											1325					
600,000	600	(304.00)		37	37	58	61	61	91	127	427	703		1470			5985	14945
600,431	600	300.00	–			34		61							1530	2385		
646,000	646	(327.33)											1600					
700,000	700	(355.00)		37	61	58	61	61	91	127	427	703		1729			6916	17507
750,000	750	(380.00)		37	61	58	61	61	91	127	427	703		1862			7581	18788
767,984	768	400.00	–			53		61							2035	–		
777,000	777	(393.71)											1925					
800,000	800	(405.00)		37	61	58	61	61	91	127	427	703		1995			7980	20069
900,000	900	(456.00)				58		61										
968,194	968	500.00	–			53		61							1768	–		
1,000,000	1,000	(507.00)		37	61	58	61	61	91	127	427	703		2527			10101	25193
1,111,000	1,111	(562.94)																
1,250,000	1,250	(633.00)				–	91	91	127			703		3059				
1,300,000	1300	(658.71)					91		127			703		3192				
1,400,000	1400	(709.38)					91		127			703		3458				
1,500,000	1500	(760.05)					91		127			703		3724				
1,600,000	1600	(810.72)					127		169			1159		3990				
1,700,000	1700	(861.39)					127		169			1159		4256				
1,750,000	1750	(886.73)					127		169			1159		4389				
1,800,000	1800	(912.06)					127		169			1159		4522				
1,900,000	1900	(962.73)					127		169			1159		4788				
2,000,000	2000	(1,013.40)					127		169			1159		4921				