

WIRE FILL

Maximum allowable percentage wire fill per Table 1, Chapter 9, National Electric Code 2008

IPS sizes					
Trade Size	Internal Diameter in (mm)	Total Area sq in (sq mm)	Percent of cross section of conduit & tubing for conductors		
			1 conductor 53% fill sq in (sq mm)	2 conductors 31% fill sq in (sq mm)	Over 2 conductors 40% fill sq in (sq mm)
¾ (19)	0.910 (23)	0.650 (419)	0.345 (222)	0.202 (130)	0.260 (168)
1 (25)	1.175 (30)	1.084 (699)	0.574 (371)	0.336 (217)	0.434 (280)
1¼ (32)	1.520 (39)	1.814 (1170)	0.961 (620)	0.562 (363)	0.725 (468)
1½ (38)	1.760 (45)	2.432 (1569)	1.289 (831)	0.754 (486)	0.973 (628)
2 (51)	2.235 (57)	3.921 (2530)	2.078 (1341)	1.216 (784)	1.569 (1012)
3 (76)	3.360 (85)	8.862 (5718)	4.697 (3030)	2.747 (1772)	3.545 (2287)
4 (102)	4.320 (110)	14.650 (9452)	7.764 (5009)	4.541 (2930)	5.860 (3781)
5 (127)	5.380 (137)	22.721 (14659)	12.042 (7769)	7.044 (4544)	9.089 (5864)
6 (152)	6.380 (162)	31.953 (20615)	16.935 (10926)	9.905 (6391)	12.781 (8246)

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2 (51)	2.00 (51)	3.140 (2026)	1.664 (1074)	0.973 (328)	1.256 (810)
2½ (64)	2.500 (64)	7.906 (3165)	2.600 (1678)	1.521 (981)	1.963 (1266)
3 (76)	3.000 (76)	7.065 (4558)	3.744 (2416)	2.190 (1413)	2.826 (1823)
3½ (89)	3.500 (89)	9.616 (6204)	5.097 (3288)	2.981 (1923)	3.847 (2482)
4 (102)	4.000 (102)	12.560 (8103)	7.764 (5009)	3.894 (2512)	5.024 (3241)
5 (127)	5.000 (127)	19.625 (12661)	12.042 (7769)	6.084 (3925)	7.850 (5065)
6 (152)	6.000 (152)	28.260 (18232)	16.935 (10926)	8.761 (5652)	11.304 (7293)