



Conduit Fill Chart for Data Cables

How many Cat5e, Cat6 and Cat6A cables fit in EMT and PVC conduit

EMT conduit

40% is the maximum fill for 3 or more cables. 30% is a design target that leaves room for future cables.

EMT size	Cat5e 40% max	Cat5e 30% target	Cat6 40% max	Cat6 30% target	Cat6A 40% max	Cat6A 30% target
½"	3	2	2	2	1	n/a
¾"	6	5	4	3	1	1
1"	11	8	7	5	3	2
1¼"	19	14	13	9	6	4
1½"	25	19	18	13	8	6
2"	42	32	29	22	13	10
2½"	74	55	51	38	24	18
3"	112	84	78	58	36	27
3½"	147	110	102	76	48	36
4"	187	140	130	97	61	46

PVC Schedule 40 conduit

Maximum cables at 40% fill.

PVC size	Cat5e 40% max	Cat6 40% max	Cat6A 40% max
½"	3	1	1
¾"	6	4	1
1"	10	7	3
1¼"	18	12	6
1½"	25	17	8
2"	41	29	13
2½"	59	41	19
3"	92	64	30
3½"	124	86	40
4"	159	111	52

Fill rules

1 cable: 53% maximum fill

2 cables: 31% maximum fill

3 or more cables: 40% maximum fill

Design to 30% to leave room for future cables

Keep data cables out of conduit that carries power wiring

Cable diameters used

Cat5e UTP: 0.20 in (5.1 mm), area 0.0314 in²

Cat6 UTP: 0.24 in (6.1 mm), area 0.0452 in²

Cat6A UTP: 0.35 in (8.9 mm), area 0.0962 in²

Shielded and plenum cables vary. Check the datasheet.

Check any other cable

Cable area = 0.7854 x diameter x diameter

Number of cables x cable area must stay under

40% of the conduit internal area

Full guide and updates: www.cablify.ca/conduit-fill-guide-for-data-cables/

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Cable counts are calculated from typical cable diameters and standard conduit internal areas. Always confirm with your cable datasheet and local code.