

CALCULATING WIRE BUNDLE DIAMETERS

Using the equation

$$\text{Bundle diameter} = K \times \text{conductor OD}$$

the appropriate size sleeving can be determined by using the following table to calculate wire bundle diameter of identical conductors:

Total Conductors	K Factor	Total Conductors	K Factor	Total Conductors	K Factor
2	2.00	11	4.00	21	5.31
3	2.15	12	4.15	22	5.62
4	2.41	13	4.41	23	5.62
5	2.70	14	4.41	24	6.00
6	3.00	15	4.70	25	6.00
7	3.00	16	4.70	26	6.00
8	3.31	17	5.00	27	6.15
9	3.62	18	5.00	28	6.41
10	4.00	19	5.00	29	6.41
		20	5.31	30	6.41

For example:

$$\text{Overall bundle diameter} = K \times \text{individual conductor OD}$$

What is the diameter of eight 20-gage wires whose individual diameter is 0.055 inch?

$$\text{Overall diameter} = 3.31 \times 0.055 = 0.182 \text{ inch.}$$

CALCULATING WIRE BUNDLE DIAMETERS FOR TWISTED PAIR CABLES

No. of Pairs	K Factor	No. of Pairs	K Factor
1	2.00	15	7.40
2	3.50	16	7.80
3	3.76	17	7.90
4	4.20	18	8.00
5	4.80	19	8.00
6	5.00	20	8.20
7	5.00	21	8.60
8	5.60	22	8.80
9	6.00	23	9.00
10	6.50	24	9.50
11	6.60	25	9.60
12	6.80	26	9.60
13	6.90	27	9.80
14	7.20		

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