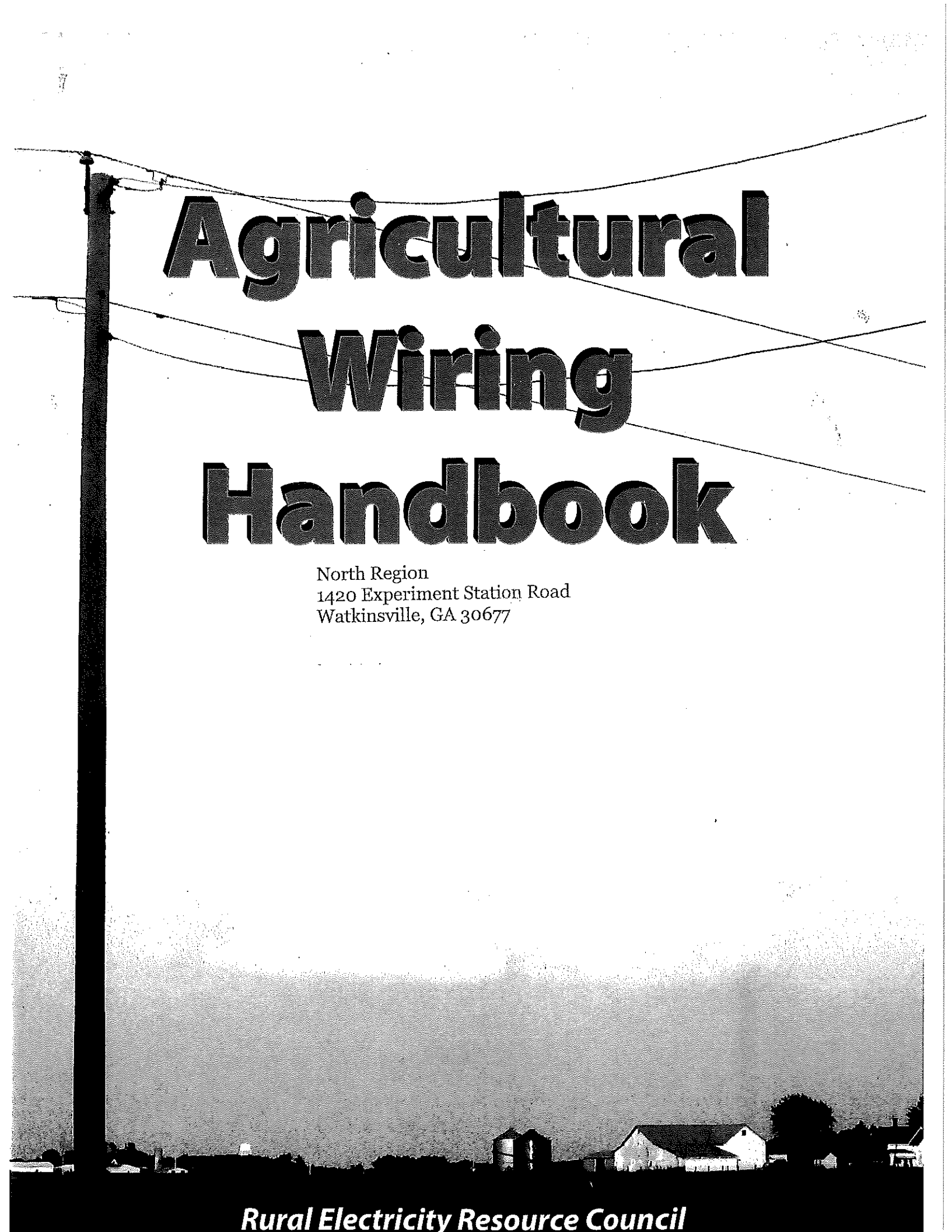


Agricultural Wiring Handbook

North Region
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Rural Electricity Resource Council

SECTION 34 USING WIRE SIZE SELECTION TABLES

Use Tables 10 through 39 to determine the minimum wire size needed to stay within the limits of both voltage drop, and the temperature limits of the conductor insulation. These tables can be significant time savers because several sizing factors are taken into account, resulting in the optimum wire selection. These factors include (1) amp load, (2) voltage drop, (3) distance to the load, (4) NEC requirements (conductor insulation temperature limits), and (5) motor starting and operation.

The conductor sizes shown in Tables 10 through 39 use AWG numbers for wire sizes up to 4/0, and kcmil numbers above that. For background on wire designations (AWG and kcmil) refer to Handbook Section 3, also Table 6. Wire sizing information has been adapted from NEC Tables 310.15 (B)(16) through 310.15 (B)(20).

PROCEDURE - To select the needed conductor, you must know the amperage of the load and the distance in feet (one way) to the load. Next, you must understand which table to use. Figure 34a identifies the main components in each table heading. Also note the Footnotes provided at the end of this section which are common to each table.

Step 1: Find the amperage in the left column and the length of the circuit run along the top of the table; if between two table values, go to the higher value. The point where the two intersect (on the right side of the double lines) is the recommended wire size needed to keep voltage drop within the table's listed percentage.

Step 2: Compare this wire size from the right side of the table to the value shown on the left side, which lists the minimum NEC requirements for the insulation type shown.

Step 3: Choose the larger size wire. Remember that for the AWG sizes, the smaller the number, the larger the wire size (i.e. No. 4 AWG is larger than No. 6 AWG). Refer to the end of this section for detailed step-by-step instruction and examples. Conductor sizing for motors vs. non-motor loads is somewhat different, so each procedure is listed.

Tables 16 to 21 and 28 to 33 apply to 230/240 V circuits and feeders, single or three-phase. In the case of a single-phase feeder with 3 wires, the

size of the neutral may be figured on the maximum unbalanced load between either of the ungrounded conductors and the neutral, omitting all 240 V loads, (NEC 220.61). For buildings where livestock are housed or where stray voltage may develop, *do not* reduce the neutral size.

The heading "In Air, Cable or Conduit" includes cables of the common non-metallic sheathed types, armored cable, service entrance cable, and individual wires in conduit, ("thin-wall" PVC, and flexible conduit). Buried wires, whether as cable or as individual conductors, are covered in separate columns No. 5 and No. 6 of each table, as counted from the left side.

• Copper or Aluminum Wire: There are different tables for each.

• Amperage: The maximum amperage in this table.

• Voltage: The voltage rating for this table. There are different tables for each of the standard service voltages.

• Single or Three-Phase Power: There are different tables for each.

• Percent Voltage Drop: The voltage drop limit used for this table. There are tables with other values.

Aluminum up to 200 Amperes, 115-120 Volts, Single Phase, Based on 2% Voltage Drop									
In Air, Cable or Conduit					Buried in Ground				
Length in Feet	THHN/THWN	THHN/THWN	THHN/THWN	THHN/THWN	THHN/THWN	THHN/THWN	THHN/THWN	THHN/THWN	THHN/THWN
Amperes	15	20	25	30	35	40	45	50	60
10	12	12	12	12	12	12	12	12	12
20	12	12	12	12	12	12	12	12	12
30	12	12	12	12	12	12	12	12	12
40	12	12	12	12	12	12	12	12	12
50	12	12	12	12	12	12	12	12	12
60	12	12	12	12	12	12	12	12	12
75	12	12	12	12	12	12	12	12	12
100	12	12	12	12	12	12	12	12	12
125	12	12	12	12	12	12	12	12	12
150	12	12	12	12	12	12	12	12	12
200	12	12	12	12	12	12	12	12	12
250	12	12	12	12	12	12	12	12	12
300	12	12	12	12	12	12	12	12	12
350	12	12	12	12	12	12	12	12	12
400	12	12	12	12	12	12	12	12	12
450	12	12	12	12	12	12	12	12	12
500	12	12	12	12	12	12	12	12	12
600	12	12	12	12	12	12	12	12	12
700	12	12	12	12	12	12	12	12	12
800	12	12	12	12	12	12	12	12	12
900	12	12	12	12	12	12	12	12	12
1000	12	12	12	12	12	12	12	12	12

Fig. 34a - Layout of Wire Selection Tables

Type THHN/THWN insulation is now required on the individual conductors in non-metallic sheathed cable. Type THHN/THWN insulation is also used on UF cable.

Type THW, RH or RHW insulation is generally used on the individual conductors of service entrance cable of Type SE, which is used for ordinary exterior and interior work.

The same type of wire insulation is generally used on underground service entrance cable Type USE, both as single-conductor or multiple-conductor cable. The outer jacket of Type USE cable, unlike that of Type UF, is not flame-retardant. Therefore, Type USE is *not approved* for interior wiring, while Type UF is. A few new conductors on the market are dual rated, and can be used for interior wiring.

The heading "Conductors Overhead in Air" includes only insulated conductors. Larger size overhead wiring is primarily installed in 3- and 4-wire assemblies known as triplex and quadruplex respectively, having one bare conductor with a steel core and two or three insulated conductors.

FORMULAS -- The sizes of **copper conductors** for single-phase and three-phase circuits were determined from the formulas:

I. Copper, Single-Phase:

$$CM = (25 \times I \times L) \div V$$

where CM = area of conductor in circular mils
 I = single-phase line current in amps
 L = length (one-way) of circuit in ft.
 V = voltage drop in volts

II. For 3-phase circuits the formula is:

$$CM = (12.5 \times I_3 \times 1.73 \times L) \div V$$

$$= (22 \times I_3 \times L) \div V$$

In the above equation, I_3 is the three-phase line current in amps; other symbols as noted above.

For sizing of **aluminum conductors**, these formulas above may be used, and the result multiplied by 1.6, or the formulas may be modified as follows:

I. Aluminum, Single-Phase:

$$CM = (25 \times I \times L \times 1.6) \div V = (40 \times I \times L) \div V$$

II. Aluminum, Three-Phase:

$$CM = (22 \times I_3 \times L \times 1.6) \div V$$

$$= (35 \times I_3 \times L) \div V$$

The factor 1.6 is derived from the ratio of the conductivity of copper to aluminum, which varies from 1.59 to 1.64, depending upon hardness of copper and temperature.

Line reactance and power factor have been neglected. For wiring installed in cable, or individual wires in conduit, or for several wires buried in one trench, the conductors are so close to one another that the inductive reactance is negligible. The same is true for aerial cable of the triplex and quadruplex type.

Where circuits are of considerable length, and individual conductors are spaced several inches apart (as on a secondary rack), power factor and inductive reactance may be of some importance. Results given by tables and formulas may be checked with a Mershon Diagram in the *Standard Handbook for Electrical Engineers*. The results obtained from formulas and tables however, are

likely subject to less error than other factors entering into the calculations for ordinary farm wiring applications.

STEPS IN SELECTING CONDUCTOR SIZES FOR LOADS OTHER THAN MOTORS

Five steps are necessary for selecting conductor sizes for these types of circuits.

1. Determine the total load current (amps) in accordance with Handbook Section 17 and 18.
2. Find the total distance in ft. (one way) from the service point to the load.
3. Choose a suitable type of wire to serve the load in accordance with the needed type of installation, environment, availability and cost.
4. Determine the wire size according to voltage drop, using the amp load and distance to the load (from the right side of table). A 3% voltage drop for the full distance from meter to load is typically used, with 2% drop preferred.
5. Compare this size with that given in the columns to the left of the double lines for wire insulation type and location (buried, in conduit, etc.). Use the larger of the two sizes of wire.

Example 1: What is the conductor size needed for a current load of 20 amps, a 2% voltage drop, a distance to the load of 40 ft., on a 120 V single-phase circuit using copper wire in NM cable? Use **Table 10** for copper wire at the 2% voltage drop. Sizing first for voltage drop (numbers to the right of the double lines), the intersection of 20 amps and 40 ft. yields a No. 10 AWG wire size. Checking next for NM wire insulation limits (left of double lines) yields a minimum size of No. 12. Therefore, select the larger No. 10 wire size.

STEPS IN SELECTING CONDUCTOR SIZES FOR MOTOR LOADS

Four steps are necessary in selecting conductor sizes for motor loads.

1. Determine the appropriate motor current value from Table 8 (single-phase) or Table 9 (3-phase) according to the following criteria for single or multiple motor loads:
 - (a) For Single Motor Loads: Use the current value in the column marked "125% Full Load Amps" from Table 8 or Table 9.
 - (b) For Multiple Motor Loads: Use the 125% current value for just the *largest* motor. Add to this the value(s) for each smaller motor found within the "Full Load Amps" column for each additional motor.

- (c) For Combination Loads: When loads consist of a combination of motor and non-motor loads, use the sum of the motor currents as determined in either (a) or (b), plus the additional current required for the non-motor loads. The calculations should be in accordance with *NEC* Articles 210 Part II, 220 Part II, and 430 Part II.
2. From Tables 10 through 39, select the appropriate table according to service voltage, conductor type (copper or aluminum), the phase (single or 3-phase), and percent voltage drop. Use the total current value (determined in Step 1), along with the distance to the load to enter the table. Use the right side of the table to determine the wire size that will keep voltage drop within the selected percentage.
3. Check the conductor size determined for voltage drop against the size needed to maintain insulation temperature limits. On the left side of the table, find the insulation type and location along the top columns. Then find the point where this column intersects the row, listing the amp load. This provides the minimum wire size for this type of insulation and conditions.

Note: For 208 V, 3-phase motors, the modified current values are provided in Table 9, Columns 3 and 4. Use these

adjusted values to enter the 3-phase wire size selection table listing 230 - 240 V. (The current values given in Columns 3 and 4 compensate for the difference in voltage drop at 208 V as compared to the table value determined at 240 V for either copper or aluminum).

4. Compare the two conductor sizes determined in Steps 2 and 3 above, and select the larger of the two wire sizes.

Example 2 (refer to **Figure 34b**): For a single motor load of 10 horsepower, requiring 240 V, single-phase, find the minimum wire size needed to keep voltage drop at 2% for a circuit run of 200 feet.

Begin with **Table 8** to find the 125% full-load amp current. In Column 7 of Table 8 the value is 62 amps. Use the next higher size of 70 amps; then enter **Table 16** (230 - 240 V, 2% voltage drop, copper). Checking first for voltage drop, with a service length of 200 feet at 70 amps, the minimum wire size listed is No. 1 AWG. Next, comparing this wire size for insulation limits (left side of double lines), shows that type THHN carrying 70 amps must be at least No. 6 AWG. Therefore, since No. 1 AWG copper is larger than No. 6, select No. 1 as the needed conductor size.

Footnotes Common to Table 10-39

* Single-conductors in overhead branch circuits must be at least No. 12 copper or No. 8 aluminum for spans up to 50 feet. For triplex and quadruplex used in free air, the smallest conductor listed in the *NEC* and this Handbook is No. 8, AWG, even though No. 10, AWG copper has ample ampacity for small loads. For service conductors and for branch circuit spans greater than 50 feet, use at least No. 8 copper or No. 6 aluminum (*NEC* 225.6).

** UF is not permitted in sizes greater than 4/0. NM is not permitted in sizes greater than No. 2 AWG. NM cannot be used in agricultural environments defined by *NEC* 547. In most applications, equipment will be rated at 60°C. Therefore, the conductor ampacity must be that in the NM, UF column of the Tables (equivalent to 60°C) after all deratings are calculated.

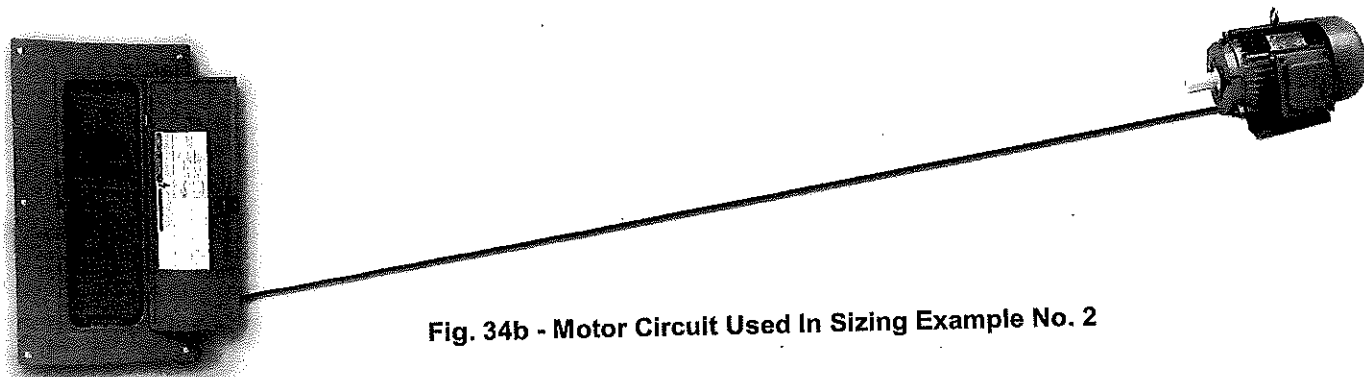


Fig. 34b - Motor Circuit Used In Sizing Example No. 2

10

Copper up to 200 Amperes, 115-120 Volts, Single Phase, Based on 2% Voltage Drop

Load In Amps	In Air, Cable or Conduit			Overhead In Air*				Length of Run in Feet																						
	RH,RHW		Direct Burial	Triplex or Quad		Compare size shown below with size shown to left of double line. Use the larger size.																								
	NM** UF**	TWH,THWN THHW,SE		THHN	UF**	USE	Single	20	40	60	80	100	125	150	175	200	225	250	275	300	350	400	450	500	550	600	650	700	750	
5	14		14	14	14	10	8	14	14	14	12	12	12	10	10	8	8	8	8	8	8	6	6	6	6	4	4	4	4	4
7	14		14	14	14	10	8	14	14	12	12	10	10	8	8	8	6	6	6	6	6	4	4	4	4	3	3	3	3	2
10	14		14	14	14	10	8	14	12	12	10	8	8	8	8	6	6	6	6	4	4	4	4	3	3	2	2	1	1	1
15	14		14	14	14	10	8	14	12	10	8	8	6	6	4	4	4	4	3	3	2	2	1	1	1/0	1/0	1/0	2/0	2/0	
20	12		12	12	12	10	8	12	10	8	6	6	6	4	4	4	3	3	2	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	3/0
25	10	10	10	10	10	10	8	12	8	8	6	6	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	4/0
30	10	10	10	10	10	10	8	12	8	6	6	4	4	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	250	250	250
35	8	8	8	8	8	8	8	10	8	6	4	4	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300	300
40	8	8	8	8	8	8	8	10	6	6	4	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300	350	350
45	6	8	8	8	6	8	8	10	6	4	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300	350	350	400
50	6	8	8	8	6	8	8	8	6	4	4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300	350	350	400	400
60	4	6	6	4	6	8	8	8	6	4	3	2	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300	350	350	400	500	500	500
70	4	4	6	4	4	8	6	8	4	3	2	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300	350	400	500	500	500	600	600
80	3	4	4	3	4	6	4	6	4	3	1	1	1/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300	350	400	500	500	600	600	700	700
90	2	3	4	2	3	6	4	6	4	2	1	1/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	400	500	500	600	600	700	700	750	750
100	1	3	3	1	3	4	4	6	4	2	1	1/0	2/0	3/0	4/0	4/0	250	300	300	350	400	500	500	600	600	700	700	750	800	800
115	1/0	2	2	1/0	2	4	3	6	3	1	1/0	2/0	3/0	4/0	4/0	250	300	300	350	400	500	500	600	600	700	700	750	800	900	900
130	2/0	1	2	2/0	1	3	2	4	2	1	2/0	3/0	4/0	4/0	250	300	350	350	400	500	500	600	700	700	750	800	900	1M	1M	1M
150	3/0	1/0	1	3/0	1/0	1	1	4	2	1/0	2/0	3/0	4/0	4/0	250	300	350	400	500	500	600	700	750	750	800	900	1M	1M	1M	1M
175	4/0	2/0	2/0	4/0	2/0	2	1/0	4	1	2/0	3/0	4/0	250	300	350	400	500	500	600	600	700	750	750	800	900	1M	1M	1M	1M	1M
200		3/0	3/0	3/0	3/0	1/0	2/0	4	1	2/0	3/0	4/0	300	350	400	500	500	600	600	700	750	750	800	900	1M	1M	1M	1M	1M	1M

11

Aluminum up to 200 Amperes, 115-120 Volts, Single Phase, Based on 2% Voltage Drop

Load In Amps	In Air, Cable or Conduit				Direct Burial UF**	Overhead in Air*			Length of Run in Feet																							
	NM** UF**	RH,RHW TWH,THWN THHW,SE	THHN	THHH		USE	Single	Triplex or Quad	Compare size shown below with size shown to left of double line. Use the larger size.																							
									20	40	60	80	100	125	150	175	200	225	250	275	300	350	400	450	500	550	600	650	700	750		
5	12			12	12	12	8	8	12	12	12	10	10	8	8	8	6	6	6	6	6	4	4	4	4	3	3	2	2	2		
7	12			12	12	12	8	8	12	12	10	10	8	8	6	6	6	4	4	4	4	3	3	2	2	1	1	1	1	1/0		
10	12			12	12	12	8	8	12	10	10	8	6	6	6	4	4	4	4	3	3	2	1	1	1	1	1	1/0	2/0	2/0		
15	12			12	12	12	8	8	12	10	8	6	6	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	3/0	4/0	4/0		
20	10			10	10	10	8	8	10	8	6	4	4	4	3	2	1	1	1	1/0	1/0	2/0	3/0	3/0	3/0	4/0	4/0	250	250	300		
25	10		10	10	10	10	8	8	10	6	6	4	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300	350	350	
30	8		8	8	8	8	8	8	8	6	4	4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300	350	400	400	400	
35	6		8	8	6	8	8	8	8	6	4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300	350	400	400	500	500	
40	6		8	8	6	8	8	8	8	4	4	2	1	1	1/0	2/0	3/0	3/0	3/0	4/0	4/0	4/0	250	300	350	350	400	400	500	500	500	
45	4		6	8	4	6	8	8	6	8	3	2	1	1/0	2/0	2/0	3/0	4/0	4/0	4/0	250	300	350	350	400	500	500	500	600	600	600	
50	4		6	6	4	6	8	6	6	4	3	1	1	1/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	400	500	500	600	600	600	600	700	
60	3		4	6	3	4	6	4	6	4	2	1	1/0	2/0	3/0	4/0	4/0	250	300	300	350	400	400	500	500	600	600	700	700	750	800	
70	2		3	4	2	3	6	4	6	3	1	1/0	2/0	3/0	4/0	4/0	250	300	300	350	400	500	500	600	600	700	700	750	800	900	900	
80	1		2	3	1	2	4	3	4	2	1	2/0	3/0	4/0	4/0	250	300	350	350	400	500	500	600	700	700	750	900	900	1M			
90	1/0		2	2	1/0	2	4	3	4	2	1/0	2/0	3/0	4/0	250	300	350	350	400	500	500	600	700	700	800	800	900	1M	1M			
100	1/0		1	2	1/0	1	4	2	4	1	1/0	3/0	3/0	4/0	300	300	350	400	500	500	600	600	700	800	800	900	1M					
115	2/0		1/0	1	2/0	1/0	3	1	4	1	2/0	3/0	4/0	250	300	350	400	500	500	600	600	700	800	800	900	1M						
130	3/0		2/0	1/0	3/0	2/0	2	1	3	1/0	2/0	4/0	250	300	350	400	500	500	600	600	700	800	700	800	900	1M						
150	4/0		3/0	2/0	4/0	3/0	1	2/0	3	2	1/0	3/0	4/0	300	350	400	500	600	600	700	800	800	900									
175		4/0	3/0	4/0		4/0	1/0	3/0	2	2	2/0	4/0	250	300	400	500	600	600	700	800	700	750	900	900								
200		250	4/0	4/0		250	2/0	4/0	1	3/0	4/0	300	350	500	600	600	700	800	900	1M												

12

Copper up to 200 Amperes, 115-120 Volts, Single Phase, Based on 3% Voltage Drop

Load In Amps	In Air, Cable or Conduit			Direct Burial	Overhead in Air**			Length of Run in Feet																												
	NM** UF**	RH,RHW TWH,SE			THHN	USE	Single	Triplex or Quad	Compare size shown below with size shown to left of double line. Use the larger size.																											
		UF**	THHN						USE	Single	Triplex or Quad	20	40	60	80	100	125	150	175	200	225	250	275	300	350	400	450	500	550	600	650	700	750			
5	14	14	14	14	14	14	10	8	14	14	14	14	14	12	12	12	10	10	10	8	8	8	8	8	8	8	8	6	6	6	6	6				
7	14	14	14	14	14	14	10	8	14	14	14	14	14	12	12	10	10	10	8	8	8	8	8	8	8	8	6	4	4	4	4	4				
10	14	14	14	14	14	14	10	8	14	14	14	14	14	12	10	10	8	8	8	8	8	8	8	8	8	8	6	4	3	3	3	3				
15	14	14	14	14	14	14	10	8	14	12	12	10	8	8	8	6	6	6	6	4	4	4	4	4	4	4	3	2	2	1	1	1				
20	12	12	12	12	12	12	10	8	14	12	10	8	8	6	6	6	4	4	4	4	4	4	4	3	2	2	1	1	1	1/0	1/0	1/0				
25	10	10	10	10	10	10	10	8	14	10	8	8	6	6	6	4	4	4	3	3	3	2	2	1	1	1/0	1/0	1/0	2/0	2/0	2/0	2/0				
30	10	10	10	10	10	10	10	8	12	10	8	6	6	6	4	4	4	3	3	2	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	3/0	3/0				
35	8	8	8	8	8	8	8	8	12	10	8	6	6	4	4	3	3	2	2	1	1	1	1/0	1/0	2/0	2/0	3/0	3/0	3/0	4/0	4/0	4/0				
40	8	8	8	8	8	8	8	8	12	8	6	6	4	4	4	3	2	2	1	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	4/0	4/0				
45	6	8	8	8	6	8	8	8	12	8	6	6	4	4	3	2	2	1	1	1/0	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	250	250				
50	6	8	8	8	6	8	8	8	10	8	6	4	4	3	3	2	1	1	1/0	1/0	1/0	2/0	3/0	3/0	4/0	4/0	4/0	4/0	250	250	300	300				
60	4	6	6	6	4	6	8	6	10	6	6	4	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	300	350	350	350				
70	4	4	6	4	4	8	6	6	10	6	4	4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300	350	350	400	400	500				
80	3	4	4	3	4	6	4	4	8	6	4	3	2	1	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300	350	350	400	400	500					
90	2	3	4	2	3	6	4	4	8	6	4	3	2	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300	350	350	400	500	500	500					
100	1	3	3	1	3	4	4	4	8	4	4	2	1	1/0	1/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	350	350	400	500	500	500	500	600	600				
115	1/0	2	2	1/0	2	4	3	2	8	4	3	2	1	1/0	2/0	3/0	3/0	4/0	4/0	250	250	300	350	400	400	500	500	500	600	600	600	600				
130	2/0	1	2	2/0	1	3	2	1	6	4	2	1	1/0	2/0	3/0	3/0	4/0	4/0	250	250	300	350	400	500	500	500	600	600	600	700	700	700				
150	3/0	1/0	1	3/0	1/0	1	1	1	6	4	2	1	1/0	2/0	3/0	4/0	4/0	250	300	300	350	400	500	500	600	600	700	700	700	800	800	800				
175	4/0	2/0	2/0	4/0	2/0	2	1/0	1/0	6	3	1	1/0	2/0	3/0	4/0	250	300	350	350	400	500	500	600	600	700	700	750	800	900	1M	1M	1M				
200	3/0	3/0	3/0	3/0	3/0	1/0	2/0	2/0	4	2	1	2/0	3/0	4/0	4/0	250	300	350	350	400	500	500	600	700	700	800	900	900	1M	1M	1M	1M				

* : ** See footnotes common to all selection tables.

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Aluminum up to 200 Amperes, 115-120 Volts, Single Phase, Based on 3% Voltage Drop

Load In Amps	In Air, Cable or Conduit				Overhead in Air*			Length of Run In Feet																					
	RH,RHW				Direct			Compare size shown below with size shown to left of double line. Use the larger size.																					
	NM** UF**	TWH,THWN THHW,SE	THHN	THHN	Burial UF**	USE	Single or Quad	20	40	60	80	100	125	150	175	200	225	250	275	300	350	400	450	500	550	600	650	700	750
6	12	12	12	12	12	12	8	8	12	12	12	12	12	10	10	10	8	8	8	8	6	6	6	6	4	4	4	4	4
7	12	12	12	12	12	12	8	8	12	12	12	12	10	10	8	8	8	6	6	6	6	4	4	4	3	3	3	2	2
10	12	12	12	12	12	12	8	8	12	12	10	10	8	8	6	6	6	6	4	4	4	4	3	3	2	2	1	1	1
15	12	12	12	12	12	12	8	8	12	10	10	8	6	6	6	4	4	4	4	3	3	2	1	1	1	1	1	2	2
20	10	10	10	10	10	10	8	8	12	10	8	6	6	4	4	4	3	2	2	1	1	1	1	1	1	1	2	2	2
25	10	10	10	10	10	10	8	8	12	8	6	6	4	4	4	3	2	2	1	1	1	1	1	1	1	1	2	2	2
30	8	8	8	8	8	8	8	8	10	8	6	4	4	4	3	2	1	1	1	1	1	1	1	1	1	1	2	2	2
35	6	8	8	8	6	8	8	8	10	6	4	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2
40	6	8	8	8	6	8	8	8	10	6	4	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2
45	4	6	8	8	4	6	8	6	10	6	4	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2
50	4	6	8	8	4	6	8	6	8	6	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2
60	3	4	6	6	3	4	6	4	8	4	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2
70	2	3	4	4	2	3	6	4	8	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2
80	1	2	3	3	1	2	4	3	6	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2
90	1/0	2	2	2	1/0	2	4	3	6	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2
100	1/0	1	2	2	1/0	1	4	2	6	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2
115	2/0	1/0	1	2/0	1/0	3	1	6	3	1	1/0	2/0	3/0	4/0	250	300	300	350	400	400	500	600	600	700	750	800	900	900	1M
130	3/0	2/0	1/0	3/0	2/0	2	1/0	4	2	1/0	2/0	3/0	4/0	250	300	300	350	400	400	500	600	600	700	750	800	900	900	1M	1M
150	4/0	3/0	2/0	4/0	3/0	1	2/0	4	1	1/0	3/0	4/0	300	300	350	400	500	500	600	600	700	700	800	800	900	900	1M	1M	1M
175	4/0	3/0	2/0	4/0	3/0	1/0	3/0	4	1	2/0	3/0	4/0	250	300	350	400	500	500	600	600	700	700	800	800	900	900	1M	1M	1M
200	250	4/0	250	250	250	2/0	4/0	3	1/0	3/0	4/0	250	300	350	400	500	600	600	700	700	800	800	900	900	1M	1M	1M	1M	1M

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Copper up to 200 Amperes, 115-120 Volts, Single Phase, Based on 4% Voltage Drop

Load In Amps	In Air, Cable or Conduit				Overhead in Air*			Length of Run In Feet																					
	RH,RHW				Direct			Compare size shown below with size shown to left of double line. Use the larger size.																					
	NM** UF**	TWH,THWN THHW,SE	THHN	THHN	Burial UF**	USE	Single or Quad	20	40	60	80	100	125	150	175	200	225	250	275	300	350	400	450	500	550	600	650	700	750
5	14	14	14	14	14	14	10	8	14	14	14	14	14	14	12	12	12	12	10	10	10	8	8	8	8	6	6	6	6
7	14	14	14	14	14	14	10	8	14	14	14	14	12	12	10	10	10	8	8	8	8	6	6	6	6	4	4	4	4
10	14	14	14	14	14	14	10	8	14	14	14	12	12	10	10	8	8	8	6	6	6	6	4	4	4	3	3	2	2
15	14	14	14	14	14	14	10	8	14	14	12	12	10	10	8	8	6	6	6	6	4	4	4	3	3	3	2	2	2
20	12	12	12	12	12	12	10	8	14	12	12	10	8	8	6	6	6	6	4	4	4	4	3	3	2	2	1	1	1
25	10	10	10	10	10	10	10	8	14	12	10	8	8	6	6	6	4	4	4	4	3	3	2	2	1	1	1	1	1
30	10	10	10	10	10	10	10	8	14	12	10	8	6	6	4	4	4	3	3	3	2	2	1	1	1	1	1	1	1
35	8	8	8	8	8	8	8	8	14	10	8	8	6	6	4	4	4	3	3	3	2	2	1	1	1	1	1	1	1
40	8	8	8	8	8	8	8	8	12	10	8	6	6	6	4	4	4	3	3	2	2	1	1	1	1	1	1	1	1
45	6	8	8	8	6	8	8	8	12	10	8	6	6	4	4	4	3	2	2	2	1	1	1	1	1	1	1	1	1
50	6	8	8	8	6	8	8	8	12	8	8	6	6	4	4	3	3	2	2	1	1	1	1	1	1	1	1	1	1
60	4	6	6	6	4	6	8	6	12	8	6	6	4	4	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1
70	4	4	6	4	4	4	6	6	10	6	6	4	4	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1
80	3	4	4	4	3	4	6	4	10	6	6	4	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
90	2	3	4	2	3	6	4	4	10	6	4	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
100	1	3	3	1	3	4	4	4	8	6	4	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
115	1/0	2	2	1/0	2	4	3	8	6	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
130	2/0	1	2	2/0	1	3	2	8	4	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
150	3/0	1/0	1	3/0	1/0	1	1	8	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
175	4/0	2/0	2/0	4/0	2/0	2	1/0	6	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
200	3/0	3/0	3/0	3/0	3/0	1/0	2/0	6	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

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Aluminum up to 200 Amperes, 115-120 Volts, Single Phase, Based on 4% Voltage Drop

Load In Amps	In Air, Cable or Conduit				Overhead in Air*			Length of Run In Feet																											
	RH,RHW				Direct Burial UF**	USE	Triplex or Quad	Compare size shown below with size shown to left of double line. Use the larger size.																											
	NM** UF**	TWH,THWN THHW,SE	THHN	Single				20	40	60	80	100	125	150	175	200	225	250	275	300	350	400	450	500	550	600	650	700	750						
5	12	12	12	12	12	12	8	8	12	12	12	12	12	12	10	10	10	8	8	8	8	6	6	6	6	4	4	4	4						
7	12	12	12	12	12	12	8	8	12	12	12	12	10	10	10	8	8	6	6	6	6	4	4	4	4	3	2	2	2						
10	12	12	12	12	12	12	8	8	12	12	10	10	8	8	6	6	6	4	4	4	4	3	3	2	2	1	1	1	1/0						
15	12	12	12	12	12	12	8	8	12	12	10	10	8	8	6	6	6	4	4	4	4	3	3	2	2	1	1	1	1/0						
20	10	10	10	10	10	10	8	8	14	10	10	8	6	6	6	4	4	4	4	3	3	2	1	1	1	1/0	1/0	2/0	2/0						
25	10	10	10	10	10	10	8	8	12	10	8	6	6	6	4	4	4	3	3	2	2	1	1	1	1/0	1/0	2/0	2/0	3/0						
30	8	8	8	8	8	8	8	8	12	10	8	6	6	4	4	3	3	2	2	1	1	1/0	1/0	1/0	2/0	2/0	3/0	3/0	4/0						
35	6	8	8	8	6	8	8	8	12	8	6	6	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250						
40	6	8	8	8	6	8	8	8	10	8	6	4	4	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300						
45	4	6	6	6	4	6	8	6	10	8	6	4	4	3	2	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	250	300						
50	4	6	6	6	4	6	8	6	10	6	6	4	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350						
80	3	4	6	3	4	6	4	4	10	6	4	4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	400	400						
70	2	3	4	2	3	6	4	3	8	6	4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	400	500	500						
80	1	2	3	1	2	4	3	2	8	4	4	2	1	1	1/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	350	350	400	500	500	600						
90	1/0	2	2	1/0	2	4	3	2	8	4	3	2	1	1/0	2/0	2/0	3/0	4/0	4/0	4/0	250	300	350	350	400	500	500	600	600						
100	1/0	1	2	1/0	1	4	2	2	6	4	3	1	1	1/0	2/0	3/0	4/0	4/0	4/0	250	300	300	350	400	500	500	600	600	700						
115	2/0	1/0	1	2/0	1/0	3	1	1	6	4	2	1	1/0	2/0	3/0	4/0	250	250	300	300	350	400	500	500	600	600	700	700	750						
130	3/0	2/0	1/0	3/0	2/0	2	1	1	6	3	2	1/0	2/0	3/0	4/0	250	250	300	300	350	400	500	500	600	600	700	750	800	900						
150	4/0	3/0	2/0	4/0	3/0	1	2/0	3/0	6	3	1	1/0	2/0	3/0	4/0	250	300	300	350	350	400	500	600	600	700	700	800	900	1M						
175	4/0	3/0	4/0	4/0	4/0	1/0	3/0	4/0	4	2	1/0	2/0	3/0	4/0	250	300	300	350	400	500	500	600	600	700	700	800	900	1M							
200	250	4/0	4/0	250	2/0	4/0	3/0	4/0	4	1	1/0	3/0	4/0	3/0	4/0	300	300	350	400	500	500	600	600	700	800	900	1M								

Copper up to 400 Amperes, 230-240 Volts, Single Phase, Based on 2% Voltage Drop

Load In Amps	In Air, Cable or Conduit				Overhead In Air*			Length of Run In Feet																		
	NM**	TWH, THWN	THHN	UF**	USE	Single	Triplex or Quad	Compare size shown below with size shown to left of double line. Use the larger size.																		
5	14	14	14	14	14	10	8	14	14	14	14	14	12	12	12	12	10	10	10	8	8	8	8	6	6	6
7	14	14	14	14	14	10	8	14	14	14	14	12	12	12	10	10	10	8	8	8	6	6	6	4	4	4
10	14	14	14	14	14	10	8	14	14	14	12	12	10	10	8	8	8	6	6	6	4	4	4	3	3	2
15	14	14	14	14	14	10	8	14	14	12	10	10	8	8	6	6	6	4	4	4	3	3	2	2	1	1
20	12	12	12	12	12	10	8	14	12	10	8	8	6	6	6	4	4	4	3	3	2	2	1	1	1	1
25	10	10	10	10	10	10	8	14	12	10	8	8	6	6	4	4	4	3	3	2	2	1	1	1/0	1/0	1/0
30	10	10	10	10	10	10	8	14	10	8	8	6	6	4	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0
35	8	8	8	8	8	8	8	12	10	8	6	6	4	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0
40	8	8	8	8	8	8	8	12	8	8	6	6	4	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0
45	6	8	8	8	6	8	8	12	8	6	6	4	4	4	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0
50	6	8	8	8	6	8	8	12	8	6	6	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	4/0	4/0
60	4	6	6	6	4	6	6	10	8	6	4	4	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250
70	4	4	6	4	4	4	6	10	6	4	4	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300
80	3	4	4	4	3	4	6	8	6	4	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	350
90	2	3	4	2	3	6	4	8	6	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	350	400
100	1	3	3	1	3	4	4	8	6	4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	350	400	500
115	1/0	2	2	1/0	2	4	3	8	4	3	2	1	1/0	1/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	400	400	500
130	2/0	1	2	2/0	1	3	2	6	4	3	1	1/0	1/0	2/0	3/0	3/0	4/0	4/0	250	300	350	400	500	500	600	600
150	3/0	1/0	1	3/0	1/0	1	1	6	4	2	1	1/0	2/0	3/0	3/0	4/0	4/0	250	300	350	400	500	500	600	600	700
175	4/0	2/0	2/0	4/0	2/0	2	1/0	6	3	1	1/0	2/0	3/0	3/0	4/0	4/0	250	300	350	400	500	500	600	600	700	750
200		3/0	3/0	3/0	3/0	1/0	2/0	6	3	1	1/0	2/0	3/0	4/0	4/0	250	300	350	400	500	500	600	700	750	800	900
225		4/0	3/0		4/0	1/0	3/0	4	2	1/0	2/0	3/0	4/0	4/0	250	300	350	400	500	500	600	700	750	800	900	1M
250		250	4/0		250	2/0	4/0	4	2	1/0	2/0	3/0	4/0	250	300	350	400	500	600	600	700	750	800	900	1M	
275		300	250		300	3/0	4/0	4	1	2/0	3/0	4/0	250	300	350	400	500	600	700	750	800	900	1M			
300		350	300		350	3/0	250	4	1	2/0	3/0	4/0	250	300	350	400	500	600	700	750	800	900	1M			
325		400	350		400	4/0	300	3	1/0	2/0	4/0	4/0	300	350	400	500	600	600	700	800	900	1M				
350		500	350		500	4/0	300	3	1/0	3/0	4/0	250	300	350	400	500	600	600	700	750	900	1M				
375		500	400		500	250	350	3	1/0	3/0	4/0	250	300	350	400	500	600	600	700	800	900	1M				
400		600	500		600	250	400	3	1/0	3/0	4/0	300	350	400	500	600	600	700	750	900	1M					

*, ** See footnotes common to all selection tables.

Aluminum up to 400 Amperes, 230-240 Volts, Single Phase, Based on 2% Voltage Drop

Load In Amps	In Air, Cable or Conduit				Overhead in Air*			Length of Run in Feet																						
	RH,RHW TWH,THWN			Direct Burial	Triplex or Quad	Compare size shown below with size shown to left of double line. Use the larger size.																								
	NM** UF**	THHW,SE	THHN			UF**	USE	Single	25	50	75	100	125	150	175	200	225	250	275	300	350	400	450	500	550	600	650	700	750	800
5	12	12	12	12	12	8	8	12	12	12	12	12	10	10	10	8	8	8	8	6	6	6	6	4	4	4	4	4	4	4
7	12	12	12	12	12	8	8	12	12	12	12	10	10	10	8	8	8	8	6	6	6	6	4	4	4	4	4	3	3	
10	12	12	12	12	12	8	8	12	12	12	10	8	8	8	6	6	6	6	4	4	4	4	3	3	2	2	1	1/0	1/0	1/0
15	12	12	12	12	12	8	8	12	12	10	8	6	6	6	4	4	4	4	3	3	2	2	1	1	1	1/0	1/0	2/0	2/0	3/0
20	10	10	10	10	10	8	8	12	10	8	6	6	6	4	4	4	4	3	3	2	1	1	1	1/0	1/0	2/0	2/0	2/0	3/0	3/0
25	10	10	10	10	10	8	8	12	8	8	6	6	4	4	4	3	3	2	2	1	1/0	1/0	2/0	2/0	3/0	3/0	3/0	4/0	4/0	4/0
30	8	8	8	8	8	8	8	12	8	6	6	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	250
35	6	8	8	8	6	8	8	10	8	6	4	4	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	250	300	300	300
40	6	8	8	8	6	8	8	10	6	6	4	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	250	300	300	350	350
45	4	6	8	8	4	6	8	6	6	4	4	3	2	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	300	350	350	
50	4	6	6	6	4	6	8	6	8	4	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	350	400	400
60	3	4	6	3	4	6	4	8	6	4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	350	400	400	500	500
70	2	3	4	2	3	6	4	8	4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	350	400	500	500	600	600
80	1	2	3	1	2	4	3	6	4	3	1	1	1/0	2/0	3/0	3/0	4/0	4/0	250	300	350	350	400	500	500	500	600	600	700	700
90	1/0	2	2	1/0	2	4	3	6	4	2	1	1/0	2/0	2/0	3/0	4/0	4/0	250	300	350	350	400	500	500	500	600	600	700	700	
100	1/0	1	2	1/0	1	4	2	6	4	2	1	1/0	2/0	3/0	3/0	4/0	4/0	250	300	350	350	400	500	500	600	600	600	700	700	
115	2/0	1/0	1	2/0	1/0	3	1	6	3	1	1/0	2/0	3/0	3/0	4/0	250	250	300	300	350	400	500	500	600	600	700	700	750	800	800
130	3/0	2/0	1/0	3/0	2/0	2	1/0	4	2	1	2/0	3/0	4/0	4/0	250	300	300	350	350	400	500	500	600	600	700	750	800	900	900	900
150	4/0	3/0	2/0	4/0	3/0	1	2/0	4	2	1/0	2/0	3/0	4/0	250	300	300	350	350	400	500	600	600	600	700	700	800	900	1M		
175		4/0	3/0		4/0	1/0	3/0	4	1	2/0	3/0	4/0	250	300	300	350	400	500	500	600	600	700	750	900	900	1M				
200		250	4/0		250	2/0	4/0	4	1	2/0	3/0	4/0	300	300	350	400	500	500	600	600	700	700	800	900	1M					
225		300	250		300	3/0	250	3	1/0	3/0	4/0	250	300	350	400	500	600	600	600	700	700	800	900	1M						
250		350	300		350	4/0	250	3	1/0	3/0	4/0	300	350	400	500	500	600	600	700	700	750	900	1M							
275		500	350		500	4/0	300	2	2/0	4/0	250	300	350	400	500	500	600	600	700	700	900	1M								
300		500	400		500	250	350	2	2/0	4/0	300	350	400	500	600	600	700	700	800	800	900									
325		600	500		600	300	400	1	3/0	4/0	300	350	500	500	600	700	700	750	900	1M										
350		700	500		700	300	500	1	3/0	250	300	400	500	600	600	700	750	900	900											
375		700	600		700	350	500	1	3/0	250	350	400	500	600	700	750	800	900	1M											
400		900	700		900	400	600	1	3/0	300	350	500	600	600	700	800	900	1M												

*, ** See footnotes common to all selection tables.

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Copper up to 400 Amperes, 230-240 Volts, Single Phase, Based on 3% Voltage Drop

Load In Amps	In Air, Cable or Conduit			Overhead In Air*				Length of Run In Feet																					
	RH,RHW			Direct Burial		Triplex or Quad	Compare size shown below with size shown to left of double line. Use the larger size.																						
	NM**	TWH,THWN	THHN	UF**	USE		50	75	100	125	150	175	200	225	250	275	300	350	400	450	500	550	600	650	700	800	900	1000	
5	14	14	14	14	14	10	8	14	14	14	14	14	14	14	14	12	12	12	12	10	10	10	10	8	8	8	8	8	6
7	14	14	14	14	14	10	8	14	14	14	14	14	12	12	12	12	10	10	10	10	8	8	8	8	8	6	6	6	6
10	14	14	14	14	14	10	8	14	14	14	12	12	12	10	10	10	8	8	8	8	8	6	6	6	6	4	4	4	4
15	14	14	14	14	14	10	8	14	14	12	12	10	10	8	8	8	8	8	6	6	6	6	4	4	4	4	4	3	3
20	12	12	12	12	12	10	8	14	12	10	10	8	8	8	8	6	6	6	6	4	4	4	4	4	3	3	2	2	1
25	10	10	10	10	10	10	8	12	12	10	8	8	6	6	6	6	6	6	4	4	4	3	3	3	2	2	2	1	1
30	10	10	10	10	10	10	8	12	10	8	8	6	6	6	6	6	4	4	4	4	3	3	2	2	1	1	1	1	1
35	8	8	8	8	8	8	8	12	10	8	8	6	6	6	6	4	4	4	4	3	3	2	2	1	1	1	1	1	1
40	8	8	8	8	8	8	8	10	8	8	6	6	6	6	4	4	4	4	4	3	2	2	1	1	1	1	1	1	1
45	6	8	8	8	6	8	8	10	8	8	6	6	4	4	4	4	3	3	3	2	2	1	1	1	1	1	1	1	1
50	6	8	8	8	6	8	8	10	8	6	6	6	4	4	4	4	3	3	3	2	1	1	1	1	1	1	1	1	1
60	4	6	6	6	4	6	6	8	8	6	6	4	4	4	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1
70	4	4	4	4	4	4	6	8	6	6	4	4	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1
80	3	4	4	4	3	4	6	8	6	4	4	4	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
90	2	3	4	2	3	6	4	8	6	4	4	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
100	1	3	3	1	3	4	4	6	6	4	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
115	1/0	2	2	1/0	2	4	3	6	4	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
130	2/0	1	2	2/0	1	3	2	6	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
150	3/0	1/0	1	3/0	1/0	1	1	6	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
175	4/0	2/0	2/0	4/0	2/0	2	1/0	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
200		3/0	3/0		3/0	1/0	2/0	4	3	1	1/0	1/0	2/0	3/0	3/0	4/0	4/0	4/0	4/0	250	250	300	300	350	350	400	400	400	400
225		4/0	3/0		4/0	1/0	3/0	4	2	1	1/0	2/0	3/0	3/0	4/0	4/0	250	250	300	350	350	400	400	400	500	500	600	600	600
250		250	4/0		250	2/0	4/0	3	2	1/0	2/0	2/0	3/0	4/0	4/0	250	250	300	350	350	400	400	500	500	600	600	600	700	700
275		300	250		300	3/0	4/0	3	1	1/0	2/0	3/0	3/0	4/0	4/0	250	250	300	300	350	350	400	500	500	600	600	700	700	700
300		350	300		350	3/0	250	3	1	1/0	2/0	3/0	4/0	4/0	250	300	300	350	350	400	500	500	600	600	700	700	750	900	1M
325		400	350		400	4/0	300	2	1/0	2/0	3/0	4/0	4/0	250	300	300	350	350	400	500	500	600	600	700	700	750	800	1M	1M
350		500	350		500	4/0	300	2	1/0	2/0	3/0	4/0	250	250	300	350	350	400	500	500	600	600	700	700	750	800	900	1M	1M
375		500	400		500	250	350	2	1/0	2/0	3/0	4/0	250	300	300	350	400	400	500	500	600	600	700	700	750	800	900	1M	1M
400		600	500		600	250	400	1	1/0	3/0	4/0	4/0	250	300	300	350	400	500	500	600	600	700	700	750	800	900	1M	1M	1M

*: ** See footnotes common to all selection tables.

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Aluminum up to 400 Amperes, 230-240 Volts, Single Phase, Based on 3% Voltage Drop

Load In Amps	In Air, Cable or Conduit			Overhead In Air*				Length of Run In Feet																						
	RH,RHW			Direct Burial		Triplex or Quad	Compare size shown below with size shown to left of double line. Use the larger size.																							
	NM**	TWH,THWN	THHN	UF**	USE		50	75	100	125	150	175	200	225	250	275	300	350	400	450	500	550	600	650	700	800	900	1000		
5	12	12	12	12	12	8	8	12	12	12	12	12	12	12	10	10	10	10	8	8	8	8	6	6	6	6	6	4		
7	12	12	12	12	12	8	8	12	12	12	12	10	10	10	8	8	8	8	6	6	6	6	6	6	4	4	4	4		
10	12	12	12	12	12	8	8	12	12	12	10	10	8	8	8	8	6	6	6	6	4	4	4	4	4	3	3	2		
15	12	12	12	12	12	8	8	12	12	10	8	8	6	6	6	6	6	4	4	4	4	3	3	2	2	1	1	1		
20	10	10	10	10	10	8	8	12	10	8	6	6	6	6	4	4	4	4	3	3	2	2	1	1	1	1	1	1		
25	10	10	10	10	10	8	8	10	8	6	6	6	4	4	4	4	3	2	2	1	1	1	1	1	1	1	1			
30	8	8	8	8	8	8	8	10	8	6	6	4	4	4	3	3	2	2	1	1	1	1	1	1	1	1	1			
35	6	6	6	6	6	8	8	10	8	6	6	4	4	3	3	2	2	2	1	1	1	1	1	1	1	1	1			
40	6	8	8	8	8	8	8	8	6	6	4	4	4	3	3	2	2	1	1	1	1	1	1	1	1	1	1			
45	4	6	6	6	6	8	8	8	6	6	4	4	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1			
50	4	6	6	6	6	8	8	8	6	4	4	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1			
60	3	4	4	4	4	6	6	6	6	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
70	2	3	3	3	3	6	6	6	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
80	1	2	3	3	3	4	4	6	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
90	1/0	2	2	2	2	4	4	6	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
100	1/0	1	2	2	2	4	4	6	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
115	2/0	1/0	1	2/0	1/0	3	1	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
130	3/0	2/0	1/0	3/0	2/0	2	1/0	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
150	4/0	3/0	2/0	4/0	3/0	1	2/0	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
175		4/0	3/0		4/0	1/0	3/0	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
200		250	4/0		250	2/0	4/0	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
225		300	250		300	3/0	250	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
250		350	300		350	4/0	250	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
275		500	350		500	4/0	300	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
300		500	400		500	250	350	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
325		600	500		600	300	400	1/0	3																					
350		700	500		700	300	500	1/0	3																					
375		700	600		700	350	500	1/0	3																					
400		800	700		800	400	600	2/0	3																					

Copper up to 400 Amperes, 230-240 Volts, Single Phase, Based on 4% Voltage Drop

Load In Amps	In Air, Cable or Conduit				Overhead in Air*				Length of Run in Feet																					
	RH,RHW NM** TWH,THWN			Direct- Burial	Triplex			Compare size shown below with size shown to left of double line. Use the larger size.																						
	UF**	THHW,SE	THHN	UF**	USE	Single	or Quad	50	75	100	125	150	175	200	225	250	275	300	350	400	450	500	550	600	650	700	800	900	1000	
5	14	14	14	14	14	10	8	14	14	14	14	14	14	14	14	14	14	14	12	12	12	12	10	10	10	8	8	8	8	
7	14	14	14	14	14	10	8	14	14	14	14	14	14	14	14	14	14	14	12	12	12	12	10	10	10	8	8	8	8	
10	14	14	14	14	14	10	8	14	14	14	14	14	14	14	14	14	14	14	12	12	12	12	10	10	10	8	8	8	8	
15	14	14	14	14	14	10	8	14	14	14	12	12	10	10	10	10	8	8	8	8	6	6	6	6	6	6	4	4	4	4
20	12	12	12	12	12	10	8	14	14	12	12	10	10	8	8	8	8	8	8	6	6	6	6	6	4	4	4	4	3	3
25	10	10	10	10	10	10	8	14	12	12	10	10	8	8	8	8	6	6	6	6	4	4	4	3	3	3	2	2	1	1
30	10	10	10	10	10	10	8	14	12	10	10	10	8	8	8	6	6	6	6	4	4	4	3	3	2	2	2	1	1	1
35	8	8	8	8	8	8	8	12	10	10	8	8	8	8	6	6	6	6	4	4	4	3	3	2	2	1	1	1	1	1
40	8	8	8	8	8	8	8	12	10	8	8	8	8	6	6	6	6	4	4	4	4	3	2	2	2	1	1	1	1	1
45	6	8	8	8	6	8	8	12	10	8	8	6	6	6	6	4	4	4	4	4	3	2	2	2	1	1	1	1	1	1
50	6	8	8	8	6	8	8	12	10	8	8	6	6	6	6	4	4	4	4	3	3	2	2	1	1	1	1	1	1	1
60	4	6	6	6	4	6	6	10	8	8	6	6	6	4	4	4	3	3	2	2	1	1	1	1	1	1	1	1	1	1
70	4	4	6	6	4	4	6	10	8	6	6	6	6	4	4	4	3	3	2	2	1	1	1	1	1	1	1	1	1	1
80	3	4	4	4	3	4	6	8	8	6	6	6	6	4	4	4	3	3	2	2	1	1	1	1	1	1	1	1	1	1
90	2	3	4	2	3	6	4	8	6	6	4	4	4	4	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1
100	1	3	3	1	3	4	4	8	6	6	4	4	4	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1
115	1/0	2	2	1/0	2	4	3	8	6	4	4	3	3	2	1	1	1	1	1/0	1/0	2/0	3/0	3/0	3/0	4/0	4/0	250	300	300	300
130	2/0	1	2	2/0	1	3	2	6	6	4	3	3	2	1	1	1	1	1/0	1/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300	350	350
150	3/0	1/0	1	3/0	1/0	1	1	6	4	4	3	2	1	1	1	1	1	1	1/0	1/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	400
175	4/0	2/0	2/0	4/0	2/0	2	1/0	6	4	3	2	1	1	1	1	1	1	1	1/0	1/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	500
200		3/0	3/0		3/0	1/0	2/0	6	4	3	2	1	1	1	1	1	1	1	1/0	1/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	600
225		4/0	3/0		4/0	1/0	3/0	4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300	350	400	400	500	500	600	600
250		250	4/0		250	2/0	4/0	4	3	2	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300	350	400	400	500	500	600	600	700
275		300	250		300	3/0	4/0	4	2	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300	350	400	400	500	500	600	600	700	750
300		350	300		350	3/0	250	4	2	1	1/0	2/0	3/0	3/0	4/0	4/0	250	250	300	350	400	400	500	500	600	600	700	750	800	800
325		400	350		400	4/0	300	3	2	1/0	2/0	2/0	3/0	4/0	4/0	4/0	250	300	300	350	400	400	500	500	600	600	700	800	900	900
350		500	350		500	4/0	300	3	1	1/0	2/0	3/0	4/0	4/0	4/0	250	300	300	350	400	400	500	500	600	600	700	700	800	900	1M
375		500	400		500	250	350	3	1	1/0	2/0	3/0	4/0	4/0	250	300	300	350	400	400	500	500	600	600	700	700	800	900	1M	1M
400		600	500		600	250	400	3	1	1/0	2/0	3/0	4/0	4/0	250	300	300	350	400	400	500	500	600	600	700	700	800	900	1M	1M

*, ** See footnotes common to all selection tables.

Aluminum up to 400 Amperes, 230-240 Volts, Single Phase, Based on 4% Voltage Drop

Load In Amps	In Air, Cable or Conduit				Overhead in Air*				Length of Run in Feet																							
	NM** UF**	RH,RHW TWH,THWN THHW,SE	THHN	Direct Burial UF**	USE	Triplex Single or Quad	Compare size shown below with size shown to left of double line. Use the larger size.																									
							50	75	100	125	150	175	200	225	250	275	300	350	400	450	500	550	600	650	700	800	900	1000				
5	12	12	12	12	12	8	8	12	12	12	12	12	14	12	12	12	12	12	10	10	10	10	10	8	8	8	8	8	6	6	6	
7	12	12	12	12	12	8	8	12	12	12	12	12	12	12	12	10	10	10	10	10	10	8	8	8	8	8	8	6	6	6	4	4
10	12	12	12	12	12	8	8	12	12	12	12	12	12	12	12	10	10	10	10	10	10	8	8	8	8	8	8	6	6	6	4	4
15	12	12	12	12	12	8	8	12	12	12	10	10	8	8	8	8	8	6	6	6	6	6	4	4	4	4	4	4	3	3	2	2
20	10	10	10	10	10	8	8	12	12	10	8	8	8	8	6	6	6	6	6	4	4	4	4	4	4	4	3	3	2	2	1	1
25	10	10	10	10	10	8	8	12	10	8	8	8	8	6	6	6	6	6	4	4	4	4	4	3	3	3	2	2	1	1	1/0	1/0
30	8	8	8	8	8	8	8	12	10	8	8	8	6	6	6	6	4	4	4	4	3	3	2	2	2	1	1	1/0	1/0	1/0	2/0	2/0
35	6	8	8	8	8	8	8	10	8	8	6	6	6	6	4	4	4	4	3	3	3	2	2	1	1	1	1/0	1/0	2/0	2/0	3/0	3/0
40	6	8	8	8	8	8	8	10	8	6	6	6	6	4	4	4	4	3	3	3	2	2	1	1	1	1/0	1/0	2/0	2/0	2/0	3/0	4/0
45	4	6	8	8	6	8	6	10	8	6	6	6	4	4	4	3	3	2	2	2	1	1/0	1/0	1/0	1/0	2/0	2/0	2/0	2/0	3/0	4/0	4/0
50	4	6	8	8	6	8	6	8	8	6	6	6	4	4	4	3	3	2	2	2	1	1/0	1/0	1/0	2/0	2/0	3/0	3/0	3/0	4/0	4/0	4/0
60	3	4	6	3	4	6	4	8	6	6	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	4/0	250	300	300	300
70	2	3	4	2	3	6	4	8	6	4	4	3	3	2	2	1	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300	350	350
80	1	2	3	1	2	4	3	6	6	4	4	3	2	2	1	1	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	250	300	350	350	400
90	1/0	2	2	1/0	2	4	3	6	4	4	3	2	2	1	1/0	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	4/0	250	250	300	350	350	400	
100	1/0	1	2	1/0	1	4	2	6	4	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300	300	350	400	500	500	
115	2/0	1/0	1	2/0	1/0	3	1	6	4	3	2	1	1/0	1/0	2/0	2/0	2/0	3/0	3/0	4/0	4/0	250	250	300	300	300	350	350	400	500	500	600
130	3/0	2/0	1/0	3/0	2/0	2	1/0	4	4	2	1	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	250	300	300	350	350	400	400	500	500	600	600	700
150	4/0	3/0	2/0	4/0	3/0	1	2/0	4	3	2	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	350	400	400	500	500	600	600	700	750	800
175		4/0	3/0		4/0	1/0	3/0	4	2	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	350	400	400	500	500	600	600	700	800	900	900
200		250	4/0		250	2/0	4/0	4	2	1	1/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	350	400	400	500	500	600	600	700	800	900	900	1M
225		300	250		300	3/0	250	3	1	1/0	2/0	3/0	4/0	4/0	4/0	250	300	300	350	400	400	500	500	600	600	700	700	800	900	900	1M	1M
250		350	300		350	4/0	250	3	1	1/0	2/0	3/0	4/0	4/0	250	300	300	350	400	400	500	500	600	600	700	700	750	750	800	900	900	1M
275		500	350		500	4/0	300	2	1/0	2/0	3/0	4/0	4/0	250	300	300	350	400	400	500	500	600	600	700	700	750	750	800	900	900	1M	1M
300		500	400		500	250	350	2	1/0	2/0	3/0	4/0	4/0	250	300	300	350	400	400	500	500	600	600	700	700	750	750	800	900	900	1M	1M
325		600	500		600	300	400	1	1/0	3/0	4/0	4/0	250	300	350	350	400	400	500	500	600	600	700	700	750	750	800	900	900	1M	1M	1M
350		700	500		700	300	500	1	2/0	3/0	4/0	250	300	300	350	400	400	500	500	600	600	700	700	750	750	800	900	900	900	1M	1M	1M
375		700	600		700	350	500	1	2/0	3/0	4/0	250	300	350	400	400	500	500	600	600	700	700	750	750	800	900	900	900	1M	1M	1M	1M
400		900	700		900	400	600	1	2/0	3/0	4/0	300	300	350	400	500	500	600	600	700	700	800	800	900	900	900	900	900	900	900	900	900

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Copper up to 400 Amperes, 460-480 Volts, Single Phase, Based on 2% Voltage Drop

Load In Amps	In Air, Cable or Conduit				Overhead in Air*			Length of Run in Feet																							
	RH,RHW TWL,THWN			Direct Burial UF**	USE	Single	Triplex or Quad	Compare size shown below with size shown to left of double line. Use the larger size.																							
	NM** UF**	THHW,SE	THHN					100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	900	1000	1200	1400	1600	1800	2000		
5	14	14	14	14	14	14	10	8	14	14	14	14	14	12	12	12	12	10	10	10	10	8	8	8	8	8	6	6	6	6	
7	14	14	14	14	14	14	10	8	14	14	14	12	12	10	10	8	8	8	6	6	6	6	6	6	6	6	4	4	4	3	
10	14	14	14	14	14	14	10	8	14	12	10	10	8	8	8	6	6	6	6	6	4	4	4	4	4	4	3	2	2	1	
16	14	14	14	14	14	14	10	8	12	10	8	8	8	6	6	6	6	4	4	4	4	4	4	4	3	3	2	1	1/0	1/0	
20	12	12	12	12	12	12	10	8	12	10	8	8	6	6	6	6	4	4	4	3	3	3	3	3	2	2	1	1/0	1/0	2/0	2/0
25	10	10	10	10	10	10	10	8	10	8	8	6	6	6	4	4	4	3	3	3	2	2	2	1	1	1/0	2/0	2/0	3/0	3/0	
30	10	10	10	10	10	10	10	8	10	8	6	6	4	4	4	3	3	2	2	2	1	1	1	1	1/0	2/0	2/0	3/0	4/0	4/0	
35	8	8	8	8	8	8	8	8	8	8	6	6	4	4	4	3	3	2	2	1	1	1	1	1/0	1/0	2/0	3/0	4/0	4/0	250	
40	8	8	8	8	8	8	8	8	8	6	6	4	4	4	3	2	2	2	1	1	1	1	1/0	1/0	2/0	3/0	4/0	4/0	250	300	
45	6	8	8	8	6	8	8	8	8	6	6	4	4	3	3	2	2	1	1	1	1	1/0	1/0	1/0	2/0	3/0	4/0	4/0	250	300	
50	6	8	8	8	6	8	8	8	8	6	6	4	4	3	3	2	2	1	1	1	1	1/0	1/0	1/0	2/0	3/0	4/0	4/0	250	300	
60	4	6	6	6	4	6	8	6	6	4	4	3	2	2	1	1	1	1/0	1/0	1/0	2/0	2/0	2/0	3/0	3/0	4/0	250	300	300	350	
70	4	4	4	4	3	4	6	4	4	4	3	2	1	1	1	1/0	1/0	2/0	2/0	3/0	3/0	3/0	3/0	4/0	4/0	300	300	350	400	500	
80	3	4	4	4	2	3	6	4	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	3/0	4/0	4/0	4/0	4/0	250	300	350	400	500	600	
90	2	3	3	3	1	3	4	4	4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	4/0	4/0	250	300	350	400	500	500	600	
100	1	3	3	3	1	3	4	4	4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	4/0	4/0	250	300	350	400	500	600	600	
115	1/0	2	2	2	1/0	2	4	3	3	2	1	1/0	1/0	2/0	3/0	3/0	4/0	4/0	4/0	250	250	300	300	350	350	400	500	600	700	700	
130	2/0	1	2	2	2/0	1	3	2	2	1	1/0	1/0	2/0	3/0	3/0	4/0	4/0	250	250	300	300	350	400	400	500	600	700	750	800	800	
150	3/0	1/0	1	1	3/0	1/0	1	1	2	1																					
175	4/0	2/0	2/0	2/0	4/0	2/0	2	1/0	3	1	1/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	350	400	400	500	500	600	700	750	900	1M	
200		3/0	3/0	3/0	3/0	1/0	2/0		2	1/0	2/0	3/0	4/0	4/0	250	300	300	350	400	400	500	500	600	600	600	700	750	900	1M		
225		4/0	3/0		4/0	1/0	3/0		2	1/0	2/0	3/0	4/0	250	300	300	350	400	400	500	500	600	600	600	700	750	900	1M			
250		250	4/0		250	2/0	4/0		1	2/0	3/0	4/0	250	300	300	350	400	400	500	500	600	600	600	700	750	900	1M				
275		300	250		300	3/0	250		1	2/0	3/0	4/0	250	300	350	400	400	500	500	600	600	600	700	750	800	900	1M				
300		350	300		350	3/0	250		1	2/0	3/0	4/0	250	300	350	400	400	500	500	600	600	600	700	700	800	900	1M				
325		400	350		400	4/0	300		1/0	2/0	4/0	4/0	300	300	350	400	500	500	600	600	600	600	700	700	800	900	1M				
350		500	350		500	4/0	300		1/0	3/0	4/0	250	300	350	400	500	500	600	600	600	700	700	750	800	900	1M					
375		500	400		500	250	350		1/0	3/0	4/0	300	350	400	500	500	600	600	700	700	750	800	900	900	1M						
400		600	500		600	250	400		1/0	3/0	4/0	300	350	400	500	500	600	600	700	700	750	800	900	900	1M						

* : ** See footnotes common to all selection tables.

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Aluminum up to 400 Amperes, 460-480 Volts, Single Phase, Based on 2% Voltage Drop

In Air, Cable or Conduit					Overhead In Air*			Length of Run in Feet																							
Load	RH,RHW			Direct Burial	Triplex		Compare size shown below with size shown to left of double line. Use the larger size.																								
In	NM**	TWH,THWN	THHN		UF**	USE	Single	or Quad	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	900	1000	1200	1400	1600	1800	2000	
Amps	UF**	THHW,SE	THHN	UF**	USE	Single	or Quad																								
5	12	12	12	12	12	8	8	12	12	12	12	12	10	10	10	10	8	8	8	8	8	8	6	6	6	6	4	4	4	4	
7	12	12	12	12	12	8	8	12	12	12	10	8	8	8	6	6	6	6	6	6	6	6	4	4	4	4	3	2	1	1	
10	12	12	12	12	12	8	8	12	10	8	8	6	6	6	4	4	4	4	4	4	3	3	3	2	2	1	1/0	1/0	2/0	2/0	
15	12	12	12	12	12	8	8	12	10	8	6	6	6	6	4	4	4	4	4	3	3	3	2	2	1	1/0	2/0	3/0	3/0	3/0	
20	10	10	10	10	10	8	8	10	8	6	6	6	4	4	4	4	3	3	2	2	2	2	1	1	1	1/0	2/0	3/0	3/0	3/0	
25	10	10	10	10	10	8	8	8	8	6	6	4	4	4	3	3	2	2	1	1	1	1/0	1/0	1/0	2/0	2/0	3/0	4/0	4/0	4/0	
30	8	8	8	8	8	8	8	8	6	6	4	4	3	3	2	2	1	1	1/0	1/0	1/0	2/0	2/0	2/0	3/0	3/0	4/0	250	300	300	
35	6	8	8	8	6	8	8	8	6	6	4	4	3	2	1	1	1/0	1/0	1/0	2/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	350	350	
40	6	8	8	8	6	8	8	8	6	6	4	4	3	2	2	1	1/0	1/0	1/0	2/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	350	400	
45	4	6	6	6	4	6	8	6	4	4	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	3/0	4/0	4/0	4/0	300	300	350	400	500	
50	4	6	6	6	4	6	8	6	4	4	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	3/0	4/0	4/0	4/0	300	300	350	400	500	
60	3	4	6	6	3	4	6	4	3	2	1	1/0	1/0	1/0	2/0	2/0	3/0	3/0	3/0	4/0	4/0	4/0	4/0	250	300	350	400	500	500	600	
70	2	3	4	4	2	3	6	4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	4/0	250	300	300	350	350	500	500	600	600	
80	1	2	3	3	1	2	4	4	3	1	1	1/0	2/0	2/0	3/0	4/0	4/0	4/0	250	250	300	300	350	350	400	500	600	700	700	800	
90	1/0	2	2	2	1/0	2	4	4	2	1	1/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300	350	350	400	500	500	600	700	800	900	900	
100	1/0	1	2	2	1/0	1	4	4	2	1	1/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300	350	350	400	500	500	600	700	800	900	1M	
115	2/0	1/0	1	2/0	1/0	3	1	3	1	1/0	2/0	3/0	3/0	4/0	4/0	250	250	300	300	350	350	400	400	500	500	600	700	800	900	1M	
130	3/0	2/0	1/0	3/0	2/0	2	1/0	2	1/0	2/0	3/0	4/0	4/0	250	300	300	350	350	400	500	500	500	600	600	700	700	800	900	1M	1M	
150	4/0	3/0	2/0	4/0	3/0	1	2/0	1	2/0	3/0	4/0	250	300	300	350	400	500	500	600	600	600	700	700	800	800	900	900	1M	1M	1M	
175	4/0	3/0	3/0	4/0	4/0	1/0	3/0	1	2/0	3/0	4/0	300	300	350	400	500	500	600	600	600	700	700	800	800	900	900	1M	1M	1M	1M	
200	250	4/0	4/0	250	2/0	4/0	1/0	1	2/0	3/0	4/0	300	300	350	400	500	500	600	600	700	700	750	800	800	900	900	1M	1M	1M	1M	
225	300	250	300	350	3/0	250	1/0	1	3/0	4/0	250	300	350	400	500	500	600	600	700	700	750	800	800	900	900	1M	1M	1M	1M	1M	
250	350	300	350	400	4/0	250	1/0	1	3/0	4/0	250	300	350	400	500	500	600	600	700	700	750	800	800	900	900	1M	1M	1M	1M	1M	
275	500	350	400	500	3/0	250	1/0	1	3/0	4/0	250	300	350	400	500	500	600	600	700	700	750	800	800	900	900	1M	1M	1M	1M	1M	
300	500	400	500	500	3/0	250	1/0	1	3/0	4/0	250	300	350	400	500	500	600	600	700	700	750	800	800	900	900	1M	1M	1M	1M	1M	
325	600	500	600	600	3/0	300	1/0	1	3/0	4/0	250	300	350	400	500	500	600	600	700	700	750	800	800	900	900	1M	1M	1M	1M	1M	
350	700	500	700	700	3/0	300	1/0	1	3/0	4/0	250	300	350	400	500	500	600	600	700	700	750	800	800	900	900	1M	1M	1M	1M	1M	
375	700	600	700	700	3/0	300	1/0	1	3/0	4/0	250	300	350	400	500	500	600	600	700	700	750	800	800	900	900	1M	1M	1M	1M	1M	
400	900	700	900	900	3/0	300	1/0	1	3/0	4/0	250	300	350	400	500	500	600	600	700	700	750	800	800	900	900	1M	1M	1M	1M	1M	

* ** See footnotes common to all selection tables.

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Copper up to 400 Amperes, 460-480 Volts, Single Phase, Based on 3% Voltage Drop

Load In Amps	In Air, Cable or Conduit			Overhead In Air*				Length of Run in Feet																					
	RH,RHW		Direct Burial	Triplex		Compare size shown below with size shown to left of double line. Use the larger size.																							
	NM**	TWH,THWN		Single	or Quad	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	900	1000	1200	1400	1600	1800	2000		
UF**	THHW,SE	THHN	UF**	USE																									
5	14	14	14	14	14	10	8	14	14	14	14	14	14	14	12	12	12	12	12	10	10	10	8	8	8	8	8	6	
7	14	14	14	14	14	10	8	14	14	14	14	14	12	12	12	10	10	10	10	8	8	8	8	6	6	6	6	6	
10	14	14	14	14	14	10	8	14	14	14	12	12	10	10	10	8	8	8	8	8	8	6	6	6	4	4	4	4	
15	14	14	14	14	14	10	8	14	14	12	12	10	10	8	8	8	8	6	6	6	6	6	4	4	4	3	3	3	
20	12	12	12	12	12	10	8	14	12	10	10	8	8	8	8	6	6	6	6	6	6	4	4	4	3	2	2	1	
25	10	10	10	10	10	10	8	12	12	10	8	8	8	6	6	6	6	4	4	4	4	3	3	2	1	1	1	1/0	
30	10	10	10	10	10	10	8	12	10	8	8	6	6	6	6	4	4	4	4	4	3	3	2	1	1	1	1/0	1/0	
35	8	8	8	8	8	8	8	12	10	8	8	6	6	6	4	4	4	4	3	3	2	2	1	1/0	1/0	2/0	2/0	2/0	
40	8	8	8	8	8	8	8	10	8	8	6	6	6	4	4	4	4	3	3	2	2	1	1	1/0	2/0	2/0	3/0	3/0	
45	6	8	8	8	6	8	8	10	8	8	6	6	4	4	4	3	3	2	2	2	1	1	1/0	2/0	2/0	3/0	3/0	3/0	
50	6	8	8	8	6	8	8	10	8	6	6	6	4	4	3	3	2	2	2	1	1	1/0	1/0	2/0	3/0	3/0	4/0	4/0	
60	4	6	6	6	4	6	8	8	8	6	6	4	4	3	3	2	2	1	1	1	1	1/0	1/0	2/0	3/0	3/0	4/0	4/0	
70	4	4	6	6	4	4	8	8	6	6	4	4	3	3	2	2	1	1	1	1/0	1/0	2/0	2/0	3/0	4/0	4/0	250	250	
80	3	4	4	4	3	4	6	4	8	6	4	4	4	3	2	2	1	1	1	1/0	1/0	2/0	2/0	3/0	4/0	4/0	250	300	300
90	2	3	4	4	2	3	6	4	8	6	4	4	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350
100	1	3	3	3	1	3	4	4	6	6	4	3	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	350	350	
115	1/0	2	2	1/0	2	4	3	3	6	4	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	350	400	400	
130	2/0	1	2	2/0	1	3	2	2	6	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	350	400	500	500	
150	3/0	1/0	1	3/0	1/0	1	1	1	6	4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	350	400	500	500	600	
175	4/0	2/0	2/0	4/0	2/0	2	1/0	1/0	4	3	2	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	250	300	350	400	500	500	600	700	
200		3/0	3/0	3/0	3/0	1/0	2/0	2/0	4	3	1	1/0	1/0	2/0	3/0	3/0	4/0	4/0	250	250	300	300	350	350	500	500	600	700	
225		4/0	3/0	4/0	1/0	3/0	3/0	3/0	4	2	1	1/0	2/0	3/0	3/0	4/0	4/0	250	250	300	300	350	350	400	400	500	600	700	
250		250	4/0	250	2/0	4/0	4/0	4/0	3	2	1/0	2/0	2/0	3/0	4/0	4/0	250	250	300	300	350	350	400	500	600	700	700	800	
275		300	250	300	3/0	4/0	4/0	4/0	3	1	1/0	2/0	3/0	3/0	4/0	250	250	300	300	350	350	400	400	500	600	700	800	900	
300		350	300	350	3/0	250	250	4/0	3	1	1/0	2/0	3/0	4/0	4/0	250	300	300	350	350	400	400	500	500	600	700	750	900	
325		400	350	400	4/0	300	300	4/0	2	1/0	2/0	3/0	4/0	4/0	250	300	300	350	350	400	400	500	500	600	600	700	800	1M	
350		500	350	500	4/0	300	300	4/0	2	1/0	2/0	3/0	4/0	250	250	300	350	350	400	400	500	500	600	600	700	750	900	1M	
375		500	400	500	250	350	350	4/0	2	1/0	2/0	3/0	4/0	250	300	300	350	400	400	500	500	600	600	700	800	1M			
400		600	500	600	250	400	400	4/0	1	1/0	3/0	4/0	4/0	250	300	350	350	400	500	500	600	600	700	700	900	1M			

*: ** See footnotes common to all selection tables.

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Aluminum up to 400 Amperes, 460-480 Volts, Single Phase, Based on 3% Voltage Drop

Load In Amps	In Air, Cable or Conduit				Overhead in Air*				Length of Run in Feet																					
	RH,RHW		Direct Burial	Triplex	Compare size shown below with size shown to left of double line. Use the larger size.																									
	NM**	TW,THWN			UF**	USE	Single	or Quad	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	900	1000	1200	1400	1600	1800	2000
5	12	12	12	12	12	8	8	12	12	12	12	12	12	12	10	10	10	10	10	8	8	8	8	6	6	6	6	4		
7	12	12	12	12	12	8	8	12	12	12	12	12	10	10	10	8	8	8	8	8	8	6	6	6	4	4	4	4	4	
10	12	12	12	12	12	8	8	12	12	12	10	10	8	8	8	8	6	6	6	6	6	6	4	4	4	3	3	2		
15	12	12	12	12	12	8	8	12	12	10	8	8	6	6	6	6	6	4	4	4	4	4	4	3	2	1	1	1		
20	10	10	10	10	10	8	8	12	10	8	8	6	6	6	6	4	4	4	4	4	4	3	3	2	1	1	1/0	1/0	2/0	
25	10	10	10	10	10	8	8	10	8	8	6	6	6	4	4	4	4	3	3	3	2	2	1	1	1/0	2/0	2/0	3/0	3/0	
30	8	8	8	8	8	8	8	10	8	6	6	6	4	4	4	3	3	2	2	2	1	1	1	1/0	2/0	3/0	4/0	4/0		
35	6	8	8	8	6	8	8	10	8	6	6	4	4	4	3	3	2	2	2	1	1	1	1/0	1/0	2/0	3/0	4/0	4/0		
40	6	8	8	8	6	8	8	8	8	6	6	4	4	4	3	3	2	2	1	1	1	1/0	1/0	2/0	3/0	4/0	4/0	250		
45	4	6	8	8	4	6	8	6	8	6	6	4	4	3	3	2	2	1	1	1	1/0	1/0	2/0	2/0	3/0	4/0	4/0	250	300	
50	4	6	6	6	4	6	8	6	8	6	4	4	4	3	2	2	1	1	1	1/0	1/0	1/0	2/0	2/0	3/0	4/0	250	300	300	
60	3	4	6	6	3	4	6	4	6	6	4	4	3	2	1	1	1	1/0	1/0	2/0	2/0	2/0	3/0	3/0	4/0	250	300	350	350	
70	2	3	4	4	2	3	6	4	6	4	4	3	2	1	1	1/0	1/0	2/0	2/0	2/0	3/0	3/0	3/0	4/0	4/0	250	300	350	400	400
80	1	2	3	3	1	2	4	3	6	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	3/0	4/0	4/0	250	300	350	400	500	500	
90	1/0	2	2	2	1/0	2	4	3	6	4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	350	400	500	500	600	
100	1/0	1	2	2	1/0	1	4	2	6	4	2	1	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300	350	400	500	600	600	
115	2/0	1/0	1	2/0	1/0	3	1	1	4	3	2	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	250	300	300	350	400	500	600	600	700	
130	3/0	2/0	1/0	3/0	2/0	2	1/0	1/0	4	2	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	250	300	300	350	400	500	600	700	750	750	
150	4/0	3/0	2/0	4/0	3/0	1	2/0	2/0	4	2	1	1/0	2/0	3/0	3/0	4/0	4/0	250	300	300	300	350	400	500	600	700	800	900	900	
175		4/0	3/0	4/0	4/0	1/0	3/0	3/0	3	1	1/0	2/0	3/0	4/0	4/0	250	300	350	350	400	400	500	500	600	700	800	900	1M	1M	
200		250	4/0	250	2/0	4/0	4/0	4/0	2	1	2/0	3/0	3/0	4/0	250	300	350	350	400	400	500	500	600	600	700	800	900			
225		300	250	300	3/0	250	250	4/0	2	1/0	2/0	3/0	4/0	250	300	350	350	400	500	500	500	600	600	700	800	900				
250		350	300	350	4/0	250	250	4/0	1	1/0	3/0	4/0	4/0	250	300	350	350	400	500	500	500	600	600	700	700	900	1M			
275		500	350	400	500	4/0	300	4/0	1	2/0	3/0	4/0	4/0	250	300	350	400	500	500	500	600	600	700	700	800	800	1M			
300		500	400	500	500	250	350	4/0	1	2/0	3/0	4/0	4/0	300	300	350	400	500	500	600	600	600	700	700	800	900				
325		600	500	600	300	400	400	4/0	1/0	3/0	4/0	250	300	350	400	500	500	600	600	600	700	700	750	900	1M					
350		700	500	700	300	500	500	4/0	1/0	3/0	4/0	250	300	350	400	500	500	600	600	700	700	750	800	900	1M					
375		700	600	700	350	500	500	4/0	1/0	3/0	4/0	300	350	400	500	500	600	600	700	700	750	800	900	1M						
400		900	700	900	400	600	600	4/0	2/0	3/0	250	300	350	400	500	500	600	600	700	700	750	800	900	900						

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Copper up to 400 Amperes, 460-480 Volts, Single Phase, Based on 4% Voltage Drop

Load In Amps	In Air, Cable or Conduit				Overhead In Air*			Length of Run In Feet																							
	RH,RHW			Direct Burial	Triplex or Quad	Compare size shown below with size shown to left of double line. Use the larger size.																									
	NM** UF**	TWH,THWN THHW,SE	THHN			UF**	USE	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	900	1000	1200	1400	1600	1800	2000		
5	14	14	14	14	14	10	8	14	14	14	14	14	14	14	14	14	14	12	12	12	12	12	12	10	10	8	8	8	8		
7	14	14	14	14	14	10	8	14	14	14	14	14	14	14	14	12	12	12	12	12	12	10	10	8	8	8	8	8	6		
10	14	14	14	14	14	10	8	14	14	14	14	14	14	14	14	12	12	10	10	10	10	10	8	8	6	6	6	6	6		
15	14	14	14	14	14	10	8	14	14	14	12	12	10	10	10	8	8	8	8	8	8	8	6	6	6	4	4	4	4		
20	12	12	12	12	12	10	8	14	14	12	12	10	10	8	8	8	8	6	6	6	6	6	6	6	4	4	4	3	3		
25	10	10	10	10	10	10	8	14	12	12	10	10	8	8	8	6	6	6	6	6	6	6	4	4	3	2	2	2	1		
30	10	10	10	10	10	10	8	14	12	10	10	8	8	8	6	6	6	6	6	4	4	4	4	3	2	2	1	1	1/0		
35	8	8	8	8	8	8	8	12	10	10	8	8	8	6	6	6	6	4	4	4	4	4	4	3	2	2	1	1	1/0		
40	8	8	8	8	8	8	8	12	10	8	8	8	6	6	6	6	4	4	4	4	4	4	3	2	1	1	1/0	1/0	1/0		
45	6	8	8	8	6	8	8	12	10	8	8	6	6	6	4	4	4	4	4	4	3	3	2	2	1	1	1/0	2/0	2/0		
50	6	8	8	8	6	8	8	12	10	8	8	6	6	6	4	4	4	4	3	3	3	3	2	2	1	1/0	1/0	2/0	2/0		
60	4	6	6	6	4	6	8	10	8	8	6	6	4	4	4	3	3	3	2	2	2	1	1	1/0	2/0	2/0	3/0	3/0	3/0		
70	4	4	6	6	4	4	8	10	8	6	6	4	4	4	3	3	2	2	1	1	1	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0		
80	3	4	4	4	3	4	6	8	8	6	6	4	4	4	3	2	2	1	1	1	1	1/0	1/0	2/0	3/0	3/0	4/0	4/0	4/0		
90	2	3	4	2	3	6	4	8	6	6	4	4	4	3	2	2	1	1	1	1/0	1/0	1/0	2/0	3/0	3/0	4/0	4/0	250	300		
100	1	3	3	1	3	4	4	8	6	6	4	4	3	3	2	2	1	1	1/0	1/0	1/0	2/0	2/0	3/0	4/0	4/0	250	300	300		
115	1/0	2	2	1/0	2	4	3	8	6	4	4	3	3	2	1	1	1	1/0	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300		
130	2/0	1	2	2/0	1	3	2	6	6	4	3	3	2	1	1	1/0	1/0	1/0	2/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	350	350		
150	3/0	1/0	1	3/0	1/0	1	1	6	4	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	3/0	4/0	4/0	4/0	250	300	350	400	400		
175	4/0	2/0	2/0	4/0	2/0	2	1/0	6	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	3/0	4/0	4/0	4/0	250	300	350	400	500	500		
200		3/0	3/0	3/0	3/0	1/0	2/0	6	4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	4/0	250	300	350	400	500	500	600		
225		4/0	3/0	4/0	1/0	3/0	4/0	4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	250	300	300	400	500	500	600	600		
250		250	4/0	250	2/0	4/0	4/0	4	3	2	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	250	300	300	350	400	500	600	600	700		
275		300	250	300	3/0	4/0	4/0	4	2	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	250	300	300	350	400	500	600	600	700	750	750		
300		350	300	350	3/0	250	4/0	4	2	1	1/0	2/0	3/0	3/0	4/0	4/0	250	250	300	300	350	400	500	600	600	700	750	800	800		
325		400	350	400	4/0	300	4/0	3	2	1/0	2/0	2/0	3/0	4/0	4/0	250	300	300	300	350	350	400	500	600	600	700	800	900	900		
350		500	350	500	4/0	300	4/0	3	1	1/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	350	400	500	500	600	600	700	750	900	1M		
375		500	400	500	250	350	4/0	3	1	1/0	2/0	3/0	4/0	4/0	250	300	350	350	400	400	500	500	600	600	700	800	900	900	1M		
400		600	500	600	250	400	4/0	3	1	1/0	2/0	3/0	4/0	4/0	250	300	350	350	400	400	500	500	600	700	750	900	900	1M	1M		

*, ** See footnotes common to all selection tables.

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Aluminum up to 400 Amperes, 460-480 Volts, Single Phase, Based on 4% Voltage Drop

Load In Amps	In Air, Cable or Conduit				Overhead In Air*				Length of Run in Feet																							
	NM** UF**	RH,RHW TWH,THWN THHW,SE	THHN	Direct Burial UF**	USE	Single	Triplex or Quad	Compare size shown below with size shown to left of double line. Use the larger size.																								
								100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	900	1000	1200	1400	1600	1800	2000			
5	12	12	12	12	12	8	8	12	12	12	12	12	12	12	12	12	12	10	10	10	10	10	8	8	8	8	8	6	6	6		
7	12	12	12	12	12	8	8	12	12	12	12	12	12	10	10	10	10	10	8	8	8	8	8	6	6	6	6	6	4	4	4	
10	12	12	12	12	12	8	8	12	12	12	12	10	10	10	8	8	8	8	8	8	6	6	6	6	6	6	4	4	4	4	4	
15	12	12	12	12	12	8	8	12	12	12	10	10	8	8	8	6	6	6	6	6	6	6	4	4	4	4	3	3	2	2	2	
20	10	10	10	10	10	8	8	12	12	10	8	8	8	6	6	6	6	6	4	4	4	4	4	4	4	4	3	2	1	1	1	
25	10	10	10	10	10	8	8	12	10	8	8	6	6	6	6	4	4	4	4	4	4	3	3	3	2	2	1	1	1/0	1/0	1/0	
30	8	8	8	8	8	8	8	12	10	8	8	6	6	6	4	4	4	4	4	3	3	3	2	2	2	1	1/0	1/0	2/0	2/0	3/0	
35	6	8	8	8	6	8	8	10	8	6	6	6	4	4	4	4	3	3	3	3	2	2	2	1	1	1/0	1/0	2/0	3/0	3/0	3/0	
40	6	8	8	8	6	8	8	10	8	6	6	6	4	4	4	4	3	3	2	2	2	1	1	1	1/0	1/0	2/0	3/0	4/0	4/0	4/0	
45	4	6	8	8	4	6	8	10	8	6	6	4	4	4	3	3	3	2	2	2	1	1	1	1/0	1/0	2/0	3/0	4/0	4/0	4/0	4/0	
50	4	6	6	6	4	6	8	8	8	6	6	4	4	4	3	3	2	2	1	1	1	1	1/0	1/0	2/0	3/0	3/0	4/0	4/0	4/0	4/0	
60	3	4	6	3	4	6	4	8	6	6	4	4	3	3	2	2	1	1	1	1/0	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	
70	2	3	4	2	3	6	4	8	6	4	4	3	3	2	2	1	1	1/0	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	350	350	350	
80	1	2	3	1	2	4	3	6	6	4	4	3	2	1	1	1/0	1/0	1/0	2/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	350	400	400	400	
90	1/0	2	2	1/0	2	4	3	6	4	4	3	2	2	1	1/0	1/0	1/0	2/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	350	400	400	400	
100	1/0	1	2	1/0	1	4	2	6	4	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	3/0	4/0	4/0	4/0	400	300	350	400	500	500	500	
115	2/0	1/0	1	2/0	1/0	3	1	6	4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	3/0	4/0	4/0	250	250	300	350	400	500	500	600	600	600	
130	3/0	2/0	1/0	3/0	2/0	2	1/0	4	4	2	1	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	250	300	300	350	400	500	500	600	700	700	
150	4/0	3/0	2/0	4/0	3/0	1	2/0	4	4	3	2	1	1/0	2/0	2/0	3/0	4/0	4/0	4/0	250	250	300	300	350	400	500	600	600	700	700	700	
175		4/0	3/0	4/0	1/0	3/0	4/0	4	2	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	250	300	300	300	350	400	500	600	600	700	700	750	750	
200		250	4/0		250	2/0	4/0	4	2	1	1/0	2/0	3/0	3/0	4/0	4/0	250	300	300	300	350	350	400	500	600	600	700	800	800	900	900	
225		300	250		300	3/0	250	3	1	1/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	350	400	400	400	500	500	600	700	800	900	1M	1M	
250		350	300		350	4/0	250	3	1	1/0	2/0	3/0	4/0	4/0	250	300	300	350	350	400	400	500	500	600	600	700	750	900	1M			
275		500	350		500	4/0	300	2	1/0	2/0	3/0	4/0	4/0	250	300	300	350	350	400	500	500	500	600	600	700	700	900	1M				
300		500	400		500	250	350	2	1/0	2/0	3/0	4/0	250	300	300	350	350	400	500	500	500	600	600	600	700	800	900					
325		600	500		600	300	400	1	1/0	3/0	4/0	4/0	250	300	350	350	400	500	500	500	600	600	600	700	700	900	1M					
350		700	500		700	300	500	1	2/0	3/0	4/0	250	300	300	350	400	500	500	500	600	600	600	700	700	750	900						
375		700	600		700	350	500	1	2/0	3/0	4/0	250	300	300	350	400	500	500	600	600	600	700	700	750	800	1M						
400		900	700		900	400	600	1	2/0	3/0	4/0	300	300	350	400	500	500	600	600	600	700	700	800	800	900							

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Copper up to 400 Amperes, 230-240 Volts, Three Phase, Based on 2% Voltage Drop

Load In Amps	In Air, Cable or Conduit			Overhead in Air*				Length of Run in Feet																											
	NM** UF**	RH,RHW TWH,THWN THHW,SE	THHN	Direct Burial		Single	Triplex or Quad	Compare size shown below with size shown to left of double line. Use the larger size.																											
				UF**	USE			50	75	100	125	150	175	200	225	250	275	300	350	400	450	500	550	600	650	700	800	900	1000						
5	14		14	14	14	10	8	14	14	14	14	14	14	12	12	12	12	10	10	10	10	8	8	8	8	6	6	6	6	6	6	4	4	4	3
7	14		14	14	14	10	8	14	14	14	14	12	12	10	10	10	8	8	8	8	6	6	6	6	4	4	4	4	4	4	3	2	2	1	1
10	14		14	14	14	10	8	14	14	12	12	10	10	10	8	8	6	6	6	6	4	4	4	4	4	4	4	3	3	2	2	1	1	1/0	
15	14		14	14	14	10	8	14	12	10	10	10	8	8	6	6	6	6	4	4	4	4	4	3	3	2	2	2	2	1	1	1/0			
20	12	12		12	12	12	10	8	12	10	10	8	8	8	6	6	6	6	4	4	4	3	3	2	2	1	1	1	1/0	1/0	2/0	2/0	3/0	3/0	
25	10	10	10	10	10	10	10	8	10	10	8	6	6	6	4	4	4	4	4	3	3	2	2	1	1	1	1/0	1/0	2/0	2/0	2/0	3/0	3/0	4/0	
30	10	10	10	10	10	10	10	8	10	8	8	6	6	4	4	4	4	3	3	2	2	1	1	1	1/0	1/0	2/0	2/0	2/0	3/0	3/0	4/0	4/0		
35	8	8	8	8	8	8	8	8	10	8	8	6	6	4	4	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	2/0	3/0	3/0	4/0	4/0			
40	8	8	8	8	8	8	8	8	10	8	6	6	4	4	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	3/0	4/0	4/0	4/0			
45	6	8	8	8	6	8	8	8	10	8	6	6	4	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	3/0	4/0	4/0	4/0	4/0	250		
50	6	8	8	8	6	8	8	8	8	6	6	4	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	3/0	4/0	4/0	4/0	4/0	4/0	250		
60	4	6	6	6	4	6	8	6	8	6	4	4	4	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300	300	350	350		
70	4	4	6	6	4	4	8	6	8	6	4	4	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	300	350	400	400			
80	3	4	4	4	3	4	6	4	6	4	4	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	250	300	300	350	400	500	500			
90	2	3	4	4	2	3	6	4	6	4	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	250	300	300	350	400	500	500				
100	1	3	3	3	1	3	4	4	6	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	300	350	400	500	500	500				
115	1/0	2	2	2	1/0	2	4	3	4	4	2	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	350	400	500	500	600	600	600			
130	2/0	1	2	2	2/0	1	3	2	4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	400	500	500	600	600	700	700	700			
150	3/0	1/0	1	1	3/0	1/0	1	1	4	3	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	400	500	500	600	600	700	750	900	900			
175	4/0	2/0	2/0	2/0	4/0	2/0	2	1/0	4	2	1	1/0	2/0	3/0	3/0	4/0	4/0	250	250	300	350	400	500	500	600	600	700	700	750	900	1M				
200		3/0	3/0	3/0		3/0	1/0	2/0	3	1	1/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	400	500	500	600	600	700	700	750	900	1M					
225		4/0	3/0		4/0	1/0	3/0	3	3	1	1/0	2/0	3/0	4/0	4/0	250	300	300	350	400	500	500	600	600	700	700	750	900	1M						
250		250	4/0		250	2/0	4/0	2	2	1/0	2/0	3/0	4/0	4/0	250	300	300	350	350	400	500	500	600	600	700	700	800	900	900						
275		300	250		300	3/0	4/0	2	1/0	2/0	3/0	4/0	250	300	300	350	350	400	500	500	600	600	700	700	800	900	900	1M							
300		350	300		350	3/0	250	1	1/0	3/0	4/0	4/0	250	300	350	350	400	500	500	600	600	700	700	800	900	900	1M								
325		400	350		400	4/0	300	1	2/0	3/0	4/0	250	300	300	350	400	500	500	600	600	700	750	900	900	1M										
350		500	350		500	4/0	300	1	2/0	3/0	4/0	250	300	350	400	500	500	600	600	700	750	900	900	1M											
375		500	400		500	250	350	1/0	2/0	4/0	250	300	350	350	400	500	500	600	600	700	700	800	900	1M											
400		600	500		600	250	400	1/0	3/0	4/0	250	300	350	400	500	500	600	600	700	750	900	1M													

*, ** See footnotes common to all selection tables.

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Aluminum up to 400 Amperes, 230-240 Volts, Three Phase, Based on 2% Voltage Drop

Load In Amps	In Air, Cable or Conduit			Overhead In Air*				Length of Run in Feet																				
	RH,RHW TWH,THWN THHW,SE			Direct Burial		Single	Triplex or Quad	Compare size shown below with size shown to left of double line. Use the larger size.																				
	NM** UF**	THHN	THHW,SE	UF**	USE			50	75	100	125	150	175	200	225	250	275	300	350	400	450	500	550	600	650	700	800	900
5	12		12	12	12	8	8	12	12	12	12	12	10	10	10	10	8	8	8	8	6	6	6	6	4	4	4	4
7	12		12	12	12	8	8	12	12	12	12	10	10	8	8	8	6	6	6	6	4	4	4	3	3	2	2	1
10	12		12	12	12	8	8	12	12	10	10	8	8	8	6	6	4	4	4	4	3	3	2	2	1	1/0	1/0	2/0
15	12		12	12	12	8	8	12	10	8	8	8	6	6	6	4	4	4	4	3	3	2	2	1	1	1/0	1/0	2/0
20	10		10	10	10	8	8	10	8	8	6	6	6	4	4	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0
25	10	10	10	10	10	8	8	10	8	6	6	4	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0
30	8	8	8	8	8	8	8	8	8	6	4	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250
35	6	8	8	8	6	8	8	8	6	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300
40	6	8	8	8	6	8	8	8	6	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	350
45	4	6	8	8	4	6	8	6	6	4	4	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	350	400
50	4	6	6	6	4	6	8	6	4	4	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	350	400	400
60	3	4	6	3	4	6	4	6	4	3	2	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	400	500	500
70	2	3	4	2	3	6	4	6	4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	400	500	500	600
80	1	2	3	1	2	4	3	4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	400	500	500	600	600
90	1/0	2	2	1/0	2	4	3	4	3	2	1	1/0	2/0	2/0	3/0	4/0	4/0	250	300	300	350	400	500	500	600	600	700	700
100	1/0	1	2	1/0	1	4	2	4	2	1	1/0	2/0	2/0	3/0	4/0	4/0	250	300	300	350	400	500	500	600	600	700	750	900
115	2/0	1/0	1	2/0	1/0	3	1	3	2	1/0	1/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	400	500	500	600	600	700	750	900
130	3/0	2/0	1/0	3/0	2/0	2	1/0	2	1	2/0	3/0	4/0	4/0	250	300	300	350	400	500	500	600	600	700	700	800	900	1M	1M
150	4/0	3/0	2/0	4/0	3/0	1	2/0	2	1	2/0	3/0	4/0	250	300	300	350	400	500	500	600	600	700	700	800	900	1M		
175		4/0	3/0		4/0	1/0	3/0	2	1/0	2/0	3/0	4/0	250	300	300	350	400	500	500	600	600	700	700	800	900	1M		
200		250	4/0		250	2/0	4/0	1	2/0	3/0	4/0	250	300	300	350	400	500	500	600	600	700	700	800	900	1M			
225		300	250		300	3/0	250	1	2/0	3/0	4/0	250	300	350	400	500	500	600	600	700	750	900	1M	1M				
250		350	300		350	4/0	250	1/0	3/0	4/0	250	300	350	400	500	500	600	600	700	750	900	1M						
275		500	350		500	4/0	300	1/0	3/0	4/0	300	350	400	500	500	600	600	700	750	900	1M							
300		500	400		500	250	350	2/0	3/0	250	300	350	400	500	500	600	700	700	800	900	1M							
325		600	500		600	300	400	2/0	4/0	250	300	400	500	500	600	600	700	750	900	1M								
350		700	500		700	300	500	2/0	4/0	300	350	400	500	600	600	700	750	800	900	1M								
375		700	600		700	350	500	3/0	4/0	300	350	500	500	600	700	700	800	900	1M									
400		900	700		900	400	600	3/0	250	300	400	500	600	600	700	750	900	900										

Copper up to 400 Amperes, 230-240 Volts, Three Phase, Based on 3% Voltage Drop

Load In Amps	In Air, Cable or Conduit			Direct Burial	Overhead in Air*		Length of Run in Feet																								
	RH,RHW				Single	Triplex or Quad	Compare size shown below with size shown to left of double line. Use the larger size.																								
	NM**	TWH,THWN	THHN				UF**	USE	50	75	100	125	150	175	200	225	250	275	300	350	400	450	500	550	600	650	700	800	900	1000	
	UF**	THHW,SE																													
5	14	14	14	14	14	10	8	14	14	14	14	14	14	14	14	12	12	12	12	10	10	10	10	10	8	8	8	8	8	8	8
7	14	14	14	14	14	14	10	8	14	14	14	14	14	14	12	12	12	12	10	10	8	8	8	8	8	8	8	8	8	8	8
10	14	14	14	14	14	14	10	8	14	14	14	14	12	12	12	10	10	10	10	8	8	8	8	8	6	6	6	6	6	6	6
15	14	14	14	14	14	14	10	8	14	14	12	12	10	10	10	10	8	8	8	8	6	6	6	6	4	4	4	4	4	4	4
20	12	12	12	12	12	12	10	8	14	12	12	10	10	8	8	8	8	6	6	6	6	4	4	4	4	4	3	3	2	2	2
25	10	10	10	10	10	10	10	8	14	12	10	10	8	8	8	6	6	6	6	4	4	4	4	3	3	2	2	2	1	1	1
30	10	10	10	10	10	10	10	8	12	10	10	8	8	8	6	6	6	6	4	4	4	4	3	3	2	2	1	1	1/0	1/0	2/0
35	8	8	8	8	8	8	8	8	12	10	8	8	8	6	6	6	4	4	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0
40	8	8	8	8	8	8	8	8	12	10	8	8	6	6	6	4	4	4	4	4	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0
45	6	8	8	8	8	8	8	8	10	10	8	6	6	6	4	4	4	4	4	4	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0
50	6	8	8	8	8	8	8	8	10	8	8	6	6	4	4	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	3/0	3/0
60	4	6	6	6	4	6	8	6	10	8	6	6	4	4	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250
70	4	4	4	4	4	4	8	6	8	6	4	4	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	250
80	3	4	4	4	3	4	6	6	8	6	4	4	4	3	3	2	2	1	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	250	300
90	2	3	3	3	2	3	6	4	8	6	4	4	4	3	2	2	1	1	1	1/0	2/0	2/0	3/0	3/0	3/0	4/0	4/0	250	250	300	350
100	1	3	3	3	1	3	4	4	8	6	4	4	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	250	300	350	350
115	1/0	2	2	2	1/0	2	4	3	6	4	4	3	2	2	1	1	1/0	1/0	1/0	2/0	3/0	3/0	4/0	4/0	4/0	250	250	300	350	400	400
130	2/0	1	2	2	2/0	1	3	2	6	4	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300	350	400	400	400
150	3/0	1/0	1	1	3/0	1/0	1	1	6	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300	350	400	500	500	500
175	4/0	2/0	2/0	2/0	4/0	2/0	2	1/0	4	4	2	1	1	1/0	2/0	2/0	3/0	3/0	3/0	4/0	250	250	300	300	350	350	400	500	500	600	600
200		3/0	3/0	3/0	3/0	1/0	2/0	2/0	4	3	2	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	250	300	350	350	400	400	500	500	600	700	700
225		4/0	3/0		4/0	1/0	3/0	4	4	3	1	1/0	1/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	350	350	400	500	500	500	600	700	700	700
250		250	4/0		250	2/0	4/0	4	4	2	1	1/0	2/0	3/0	3/0	4/0	4/0	4/0	4/0	250	300	350	350	400	500	500	600	600	700	700	800
275		300	250		300	3/0	4/0	3	3	2	1/0	1/0	2/0	3/0	4/0	4/0	4/0	250	300	300	350	400	500	500	600	600	600	700	800	900	900
300		350	300		350	3/0	250	3	3	1	1/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	400	500	500	600	600	600	700	750	900	1M	1M
325		400	350		400	4/0	300	3	3	1	1/0	2/0	3/0	4/0	4/0	250	250	300	300	350	400	500	500	600	600	700	700	800	900	1M	1M
350		500	350		500	4/0	300	2	2	1	2/0	3/0	3/0	4/0	4/0	250	250	300	300	350	400	500	500	600	600	700	700	750	900	1M	1M
375		600	400		500	250	350	2	2	1/0	2/0	3/0	4/0	4/0	250	300	300	350	350	400	500	500	600	600	700	700	750	900	1M	1M	1M
400		600	500		600	250	400	2	2	1/0	2/0	3/0	4/0	250	250	300	350	350	400	500	500	600	600	700	700	750	800	900	1M	1M	1M

*,** See footnotes common to all selection tables.

Aluminum up to 400 Amperes, 230-240 Volts, Three Phase, Based on 3% Voltage Drop

Load In Amps	In Air, Cable or Conduit				Direct Burial UF**	Overhead in Air*			Length of Run in Feet																						
	NM** UF**	TWH,THWN THHW,SE	THHN	RH,RHW		USE	Single	Triplex or Quad	Compare size shown below with size shown to left of double line. Use the larger size.																						
									50	75	100	125	150	175	200	225	250	275	300	350	400	450	500	550	600	650	700	800	900	1000	
5	12	12	12	12	12	12	8	8	12	12	12	12	12	12	12	12	12	10	10	10	10	8	8	8	8	8	6	6	6	6	
7	12	12	12	12	12	12	8	8	12	12	12	12	12	12	10	10	10	10	8	8	8	8	6	6	6	6	4	4	4	4	
10	12	12	12	12	12	12	8	8	12	12	12	12	10	10	10	10	8	8	8	8	6	6	6	6	4	4	4	4	3	3	
15	12	12	12	12	12	12	8	8	12	12	10	10	8	8	8	8	6	6	6	6	4	4	4	4	3	3	3	2	2	1	
20	10	10	10	10	10	10	8	8	12	10	10	8	8	6	6	6	6	4	4	4	4	3	3	2	2	2	1	1	1/0	1/0	
25	10	10	10	10	10	10	8	8	12	10	8	8	6	6	6	4	4	4	4	3	3	2	2	1	1	1	1/0	1/0	2/0	2/0	
30	8	8	8	8	8	8	8	8	10	8	8	6	6	6	4	4	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	
35	6	8	8	8	6	8	8	8	10	8	6	6	6	4	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	
40	6	8	8	8	6	8	8	8	10	8	6	6	4	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0		
45	4	6	6	6	4	6	8	6	8	8	6	4	4	4	3	3	2	2	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	250	
50	4	6	6	6	4	6	8	6	8	6	6	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	250		
60	3	4	6	3	4	6	4	8	6	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	350	
70	2	3	4	2	3	6	4	6	6	4	3	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	250	300	300	350	400		
80	1	2	3	1	2	4	3	6	4	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	4/0	4/0	250	250	300	300	350	400	400	500		
90	1/0	2	2	1/0	2	4	3	6	4	3	2	2	1	1/0	1/0	2/0	2/0	3/0	4/0	4/0	250	250	300	300	350	350	400	400	500		
100	1/0	1	2	1/0	1	4	2	6	4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	250	300	300	350	350	400	500	500		
115	2/0	1/0	1	2/0	1/0	3	1	4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	3/0	4/0	250	300	300	350	350	400	400	500	600	600		
130	3/0	2/0	1/0	3/0	2/0	2	1/0	4	3	2	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	350	400	500	500	600	600	700		
150	4/0	3/0	2/0	4/0	3/0	1	2/0	4	2	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	400	500	500	600	600	700	800	900		
175		4/0	3/0	4/0	4/0	1/0	3/0	3	2	1/0	2/0	3/0	4/0	4/0	250	250	300	300	350	400	500	500	600	600	600	700	800	900	1M		
200		250	4/0		250	2/0	4/0	3	1	1/0	2/0	3/0	4/0	4/0	250	250	300	300	350	400	500	500	600	600	700	700	800	900	1M		
225		300	250		300	3/0	250	2	1	2/0	3/0	3/0	4/0	250	250	300	350	350	400	500	500	600	700	700	750	800	900	1M			
250		350	300		350	4/0	250	2	1/0	2/0	3/0	4/0	250	250	300	350	350	400	500	500	600	700	700	750	800	900	1M				
275		500	350		500	4/0	300	1	1/0	3/0	3/0	4/0	250	300	350	350	400	500	500	600	700	700	750	800	900	1M					
300		500	400		500	250	350	1	2/0	3/0	4/0	250	300	300	350	400	500	500	600	600	700	750	800	900	1M						
325		600	500		600	300	400	1	2/0	3/0	4/0	250	300	350	400	500	500	600	600	700	750	800	900	1M							
350		700	500		700	300	500	1/0	2/0	4/0	250	300	300	350	400	500	500	600	600	700	700	800	900	1M							
375		700	600		700	350	500	1/0	3/0	4/0	250	300	350	400	500	500	600	600	700	750	800	900	1M								
400		900	700		900	400	600	1/0	3/0	4/0	250	300	350	400	500	500	600	600	700	700	800	900	1M								

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Copper up to 400 Amperes, 230-240 Volts, Three Phase, Based on 4% Voltage Drop

Load In Amps	In Air, Cable or Conduit				Overhead In Air*		Length of Run In Feet																					
	RH,RHW				Direct Burial	Triplex or Quad	Compare size shown below with size shown to left of double line. Use the larger size.																					
	NM** UF**	TWH,THWN THHW,SE	THHN	USE			50	75	100	125	150	175	200	225	250	275	300	350	400	450	500	550	600	650	700	800	900	1000
5	14	14	14	14	14	10	8	14	14	14	14	14	14	14	14	14	14	14	12	12	12	12	10	10	10	10	10	8
7	14	14	14	14	14	10	8	14	14	14	14	14	14	14	14	12	12	12	12	10	10	10	10	8	8	8	8	8
10	14	14	14	14	14	10	8	14	14	14	14	14	12	12	12	12	10	10	10	10	8	8	8	6	6	6	6	6
15	14	14	14	14	14	10	8	14	14	12	12	10	10	10	10	8	8	8	8	6	6	6	6	6	6	4	4	4
20	12	12	12	12	12	10	8	14	14	12	12	10	10	10	10	8	8	8	8	6	6	6	6	4	4	4	4	3
25	10	10	10	10	10	10	8	14	12	12	10	10	8	8	8	8	6	6	6	6	4	4	4	4	4	3	3	2
30	10	10	10	10	10	10	8	14	12	10	10	10	8	8	8	6	6	6	6	4	4	4	4	3	3	2	2	1
35	8	8	8	8	8	8	8	14	12	10	10	8	8	8	8	6	6	6	6	4	4	4	3	3	2	2	1	1
40	8	8	8	8	8	8	8	12	10	10	8	8	8	8	6	6	6	6	4	4	4	3	3	2	2	1	1	1/0
45	6	8	8	8	8	8	8	12	10	10	8	8	6	6	6	6	4	4	4	4	3	3	2	2	1	1	1	1/0
50	6	8	8	8	8	8	8	12	10	8	8	6	6	6	6	4	4	4	4	3	2	2	1	1	1	1/0	1/0	2/0
60	4	6	8	4	6	8	6	10	10	8	6	6	4	4	4	4	3	3	2	2	1	1	1	1/0	1/0	2/0	2/0	3/0
70	4	4	6	4	4	8	6	10	8	8	6	6	4	4	4	4	3	2	2	1	1	1/0	1/0	1/0	2/0	2/0	3/0	3/0
80	3	4	4	3	4	6	4	10	8	6	6	4	4	4	4	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0
90	2	3	4	2	3	6	4	10	8	6	6	4	4	4	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0
100	1	3	3	1	3	4	4	8	6	6	4	4	4	3	3	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250
115	1/0	2	2	1/0	2	4	3	8	6	4	4	4	3	2	2	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300
130	2/0	1	2	2/0	1	3	2	8	6	4	4	3	3	2	1	1	1	1/0	1/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	300
150	3/0	1/0	1	3/0	1/0	1	1	6	6	4	3	3	2	1	1	1/0	1/0	2/0	3/0	3/0	4/0	4/0	4/0	250	250	300	350	350
175	4/0	2/0	2/0	4/0	2/0	2	1/0	6	4	4	3	2	1	1	1/0	1/0	2/0	3/0	3/0	4/0	4/0	250	250	300	300	350	400	500
200		3/0	3/0	3/0	3/0	1/0	2/0	6	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	400	500	500
225		4/0	3/0	4/0	1/0	3/0		6	4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	350	400	500	600
250		250	4/0	250	2/0	4/0		4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	350	400	500	600	600
275		300	250	300	3/0	4/0		4	3	2	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	350	400	500	600	700	700
300		350	300	350	3/0	250		4	3	1	1/0	1/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	350	400	500	600	700	700	700
325		400	350	400	4/0	300		4	2	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	400	500	500	600	700	750	750
350		500	350	500	4/0	300		4	2	1	1/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	400	500	500	600	700	750	800	900
375		500	400	500	250	350		3	2	1/0	2/0	2/0	3/0	4/0	4/0	250	250	300	350	350	400	500	500	600	700	700	800	900
400		600	500	600	250	400		3	1	1/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	400	500	500	600	600	700	750	900	1M

*, ** See footnotes common to all selection tables.

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Aluminum up to 400 Amperes, 230-240 Volts, Three Phase, Based on 4% Voltage Drop

Load In Amps	In Air, Cable or Conduit				Overhead in Air*				Length of Run In Feet																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
	NM** UF**	RH,RHW TWH,THWN THHW,SE	THHN	Direct Burial UF**	USE	Single	Triplex or Quad	Compare size shown below with size shown to left of double line. Use the larger size.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
								50	75	100	125	150	175	200	225	250	275	300	350	400	450	500	550	600	650	700	800	900	1000																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
5	12	12	12	12	12	8	8	14	14	14	14	14	14	14	14	12	12	12	12	10	10	10	10	8	8	8	8	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

Copper up to 400 Amperes, 460-480 Volts, Three Phase, Based on 2% Voltage Drop

Load In Amps	In Air, Cable or Conduit				Overhead In Air*		Length of Run in Feet																						
	NM** UF**	RH,RHW TWH,THWN THHW,SE	THHN	Direct Burial UF** USE	Single	Triplex or Quad	Compare size shown below with size shown to left of double line. Use the larger size.																						
5	14	14	14	14	14	10	8	14	14	14	14	14	14	12	12	12	10	10	10	10	8	8	8	8	8	8	8	8	8
7	14	14	14	14	14	10	8	14	14	14	14	12	12	12	10	10	10	10	8	8	8	8	8	8	8	8	8	8	8
10	14	14	14	14	14	10	8	14	14	12	12	10	10	10	10	8	8	8	8	8	8	8	8	8	8	8	8	8	8
15	14	14	14	14	14	10	8	14	12	10	10	10	8	8	8	6	6	6	6	6	6	6	6	6	6	6	6	6	6
20	12	12	12	12	12	10	8	12	10	10	8	8	8	8	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
25	10	10	10	10	10	10	8	12	10	8	8	6	6	6	6	6	4	4	4	4	4	4	4	4	3	3	3	3	3
30	10	10	10	10	10	10	8	10	10	8	6	6	6	6	4	4	4	4	4	3	3	3	3	3	2	2	2	2	2
35	8	8	8	8	8	8	8	10	8	6	6	6	4	4	4	4	3	3	3	2	2	2	2	1	1	1	1	1	1
40	8	8	8	8	8	8	8	10	8	6	6	4	4	4	4	3	3	2	2	2	2	1	1	1	1	1	1	1	1
45	6	8	8	8	8	8	8	8	6	6	4	4	4	4	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1
50	6	8	8	8	8	8	8	8	6	6	4	4	4	4	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1
60	4	6	6	6	4	6	8	8	6	4	4	4	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
70	4	4	6	4	4	8	6	8	6	4	4	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
80	3	4	4	3	4	6	4	6	4	4	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
90	2	3	4	2	3	6	4	6	4	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
100	1	3	3	1	3	4	4	6	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
115	1/0	2	2	1/0	2	4	3	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
130	2/0	1	2	2/0	1	3	2	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
150	3/0	1/0	1	3/0	1/0	1	1	4	3	1	1/0	1/0	2/0	3/0	3/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0
175	4/0	2/0	2/0	4/0	2/0	2	1/0	4	2	1	1/0	2/0	3/0	3/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0
200		3/0	3/0	3/0	3/0	1/0	2/0	3	1	1/0	2/0	3/0	3/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0
225		4/0	3/0		4/0	1/0	3/0	3	1	1/0	2/0	3/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0
250		250	4/0		250	2/0	4/0	2	1/0	2/0	3/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0
275		300	250		300	3/0	4/0	1	1/0	2/0	3/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0
300		350	300		350	3/0	250	1	1/0	3/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0
325		400	350		400	4/0	300	1	2/0	3/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0
350		500	350		500	4/0	300	1	2/0	3/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0
375		500	400		500	250	350	1/0	2/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0
400		600	500		600	250	400	1/0	3/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0	4/0

* , ** See footnotes common to all selection tables.

Aluminum up to 400 Amperes, 460-480 Volts, Three Phase, Based on 2% Voltage Drop

Load In Amps	In Air, Cable or Conduit				Overhead In Air*		Length of Run in Feet																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
	NM** UF**	RH,RHW TWH,THWN THHW,SE	THHN	Direct Burial UF** USE	Single	Triplex or Quad	Compare size shown below with size shown to left of double line. Use the larger size.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
							100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	900	1000	1200	1400	1600	1800	2000																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
5	12	12	12	12	12	8	8	12	12	12	12	12	12	10	10	10	10	10	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	

Copper up to 400 Amperes, 460-480 Volts, Three Phase, Based on 3% Voltage Drop

Load In Amps	In Air, Cable or Conduit				Overhead in Air*			Length of Run in Feet																			
	NM** UF**	RH,RHW TWH,THWN	THHN	Direct Burial UF**	USE	Single	Triplex or Quad	Compare size shown below with size shown to left of double line. Use the larger size.																			
		THHW,SE						100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	900	1000	1200	1400	1600
5	14	14	14	14	14	10	8	14	14	14	14	14	14	14	14	14	12	12	12	12	12	10	10	8	8	8	8
7	14	14	14	14	14	10	8	14	14	14	14	14	14	12	12	12	12	10	10	10	8	8	8	6	6	4	4
10	14	14	14	14	14	10	8	14	14	14	14	12	10	10	10	10	8	8	8	8	6	6	6	4	4	3	3
15	14	14	14	14	14	10	8	14	14	12	12	10	10	10	8	8	8	8	6	6	6	6	4	4	3	2	2
20	12	12	12	12	12	10	8	14	12	12	10	10	8	8	8	6	6	6	6	6	6	4	4	3	2	1	1
25	10	10	10	10	10	10	8	14	12	10	10	8	8	8	6	6	6	6	4	4	4	4	3	2	1	1/0	1/0
30	10	10	10	10	10	10	8	12	10	10	8	8	8	6	6	6	4	4	4	4	4	3	2	1	1/0	2/0	2/0
35	8	8	8	8	8	8	8	12	10	8	8	8	6	6	6	4	4	4	4	4	3	3	2	1	1/0	2/0	2/0
40	8	8	8	8	8	8	8	12	10	8	8	6	6	6	4	4	4	4	4	3	3	3	2	1	1/0	2/0	3/0
45	6	6	6	6	6	8	8	10	10	8	6	6	6	4	4	4	4	4	3	3	3	2	2	1	1/0	2/0	3/0
50	6	6	6	6	6	8	8	10	8	8	6	6	4	4	4	4	3	3	3	2	2	2	1	1	1/0	2/0	3/0
60	4	6	6	4	6	8	6	10	8	6	6	4	4	4	3	3	2	2	2	2	1	1	1	1/0	2/0	3/0	4/0
70	4	4	6	4	4	8	6	8	6	4	4	4	3	3	2	2	2	1	1	1	1/0	1/0	1/0	2/0	3/0	4/0	250
80	3	4	4	3	4	6	4	8	6	4	4	4	3	3	2	2	1	1	1	1/0	1/0	1/0	2/0	2/0	3/0	4/0	250
90	2	3	4	2	3	6	4	8	6	4	4	4	3	2	2	1	1	1	1/0	1/0	1/0	2/0	2/0	3/0	3/0	4/0	250
100	1	3	3	1	3	4	4	8	6	4	4	3	2	2	1	1	1/0	1/0	1/0	2/0	2/0	2/0	3/0	3/0	4/0	250	300
115	1/0	2	2	1/0	2	4	3	6	4	4	3	2	2	1	1	1/0	1/0	1/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	400
130	2/0	1	2	2/0	1	3	2	6	4	4	3	2	1	1	1/0	1/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	400
150	3/0	1/0	1	3/0	1/0	1	1	6	4	3	2	1	1	1/0	1/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	400
175	4/0	2/0	2/0	4/0	2/0	2	1/0	4	4	2	1	1	1/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	400
200		3/0	3/0		3/0	1/0	2/0	4	3	2	1	1/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	400
225		4/0	3/0		4/0	1/0	3/0	4	3	1	1/0	1/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	400
250		250	4/0		250	2/0	4/0	4	2	1	1/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	400
275		300	250		300	3/0	4/0	3	2	1/0	1/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	400
300		350	300		350	3/0	250	3	1	1/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	400
325		400	350		400	4/0	300	3	1	1/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	400
350		500	350		500	4/0	300	2	1	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	400
375		500	400		500	250	350	2	1/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	400
400		600	500		600	250	400	2	1/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	400

*, ** See footnotes common to all selection tables.

Aluminum up to 400 Amperes, 460-480 Volts, Three Phase, Based on 3% Voltage Drop

In Air, Cable or Conduit				Overhead in Air*				Length of Run in Feet																						
Load In Amps	NM** UF**	RH,RHW TWH,THWN THHW,SE	THHN	Direct Burial UF**	USE	Triplex Single or Quad		Compare size shown below with size shown to left of double line. Use the larger size.																						
		300						350	400	450	500	550	600	650	700	750	800	900	1000	1200	1400	1600	1800	2000						
5	12	12	12	12	12	8	8	12	12	12	12	12	12	12	12	10	10	10	10	10	8	8	8	8	8	8	6	6	6	6
7	12	12	12	12	12	8	8	12	12	12	12	12	12	10	10	10	10	8	8	8	8	6	6	6	6	6	4	4	4	4
10	12	12	12	12	12	8	8	12	12	12	12	10	10	10	10	8	8	8	8	6	6	6	6	6	4	4	4	3	3	3
15	12	12	12	12	12	8	8	12	12	10	10	8	8	8	8	6	6	6	6	6	4	4	4	4	4	3	3	2	2	1
20	10	10	10	10	10	8	8	12	10	10	8	8	6	6	6	4	4	4	4	4	4	4	3	3	3	2	1	1	1/0	1/0
25	10	10	10	10	10	8	8	12	10	8	8	6	6	6	4	4	4	4	3	3	3	3	2	2	2	1	1/0	1/0	1/0	2/0
30	8	8	8	8	8	8	8	10	8	8	6	6	6	4	4	4	4	3	3	3	2	2	2	2	1	1/0	1/0	2/0	2/0	2/0
35	6	8	8	8	6	8	8	10	8	6	6	6	4	4	4	3	3	3	2	2	2	2	1	1	1/0	1/0	2/0	2/0	2/0	2/0
40	6	8	8	8	6	8	8	10	8	6	6	4	4	4	3	3	2	2	2	1	1	1	1	1/0	1/0	2/0	2/0	2/0	2/0	2/0
45	4	6	8	8	4	6	8	8	8	6	4	4	4	3	3	2	2	2	1	1	1	1/0	1/0	1/0	2/0	2/0	2/0	2/0	2/0	250
50	4	6	6	6	4	6	8	8	8	6	4	4	4	3	3	2	2	1	1	1	1/0	1/0	1/0	2/0	2/0	2/0	2/0	2/0	250	250
60	3	4	6	6	3	4	6	8	6	4	4	3	3	2	2	1	1	1/0	1/0	1/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	250	300
70	2	3	4	4	2	3	6	6	6	4	3	3	2	1	1	1/0	1/0	1/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	250	300	350
80	1	2	3	3	1	2	4	6	4	4	3	2	1	1	1/0	1/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	250	300	350	400
90	1/0	2	2	2	1/0	2	4	6	4	3	2	2	1	1/0	1/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	250	300	350	400	500
100	1/0	1	2	2	1/0	1	4	6	4	3	2	1	1/0	1/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	250	250	300	350	400	500
115	2/0	1/0	1	2/0	1/0	3	1	4	3	2	1	1/0	1/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	250	250	300	300	350	400	500
130	3/0	2/0	1/0	3/0	2/0	2	1/0	4	3	2	1	1/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	2/0	250	250	300	300	350	400	500	600
150	4/0	3/0	2/0	4/0	3/0	1	2/0	4	2	1	1/0	2/0	2/0	2/0	2/0	2/0	2/0	250	250	300	300	300	350	350	400	400	500	500	600	700
175		4/0	3/0		4/0	1/0	3/0	3	2	1/0	2/0	2/0	2/0	2/0	2/0	250	250	300	300	300	300	350	350	400	400	500	500	600	700	800
200		250	4/0		250	2/0	4/0	3	1	1/0	2/0	2/0	2/0	2/0	250	250	300	300	300	350	350	400	400	500	500	600	600	700	800	900
225		300	250		300	3/0	250	2	1	2/0	2/0	2/0	2/0	250	250	300	350	350	400	400	400	500	500	500	600	600	700	800	900	1M
250		350	300		350	4/0	250	2	1/0	2/0	2/0	2/0	2/0	250	300	350	350	400	400	500	500	500	600	600	700	700	750	900	1M	
275		500	350		500	4/0	300	1	1/0	2/0	2/0	2/0	2/0	300	350	350	400	500	500	500	600	600	600	700	700	900	900	1M		
300		500	400		500	250	350	1	2/0	2/0	2/0	2/0	250	300	300	350	400	500	500	500	600	600	600	700	750	900				
325		600	500		600	300	400	1	2/0	2/0	2/0	2/0	250	300	350	400	400	500	500	600	600	600	600	700	700	750	800	1M		
350		700	500		700	300	500	1/0	2/0	2/0	2/0	250	300	300	350	400	500	500	600	600	600	600	700	700	700	800	900			
375		700	600		700	350	500	1/0	2/0	2/0	2/0	250	300	350	400	500	500	600	600	600	600	700	700	700	750	800	900	1M		
400		900	700		900	400	600	1/0	2/0	2/0	2/0	250	300	350	400	500	500	600	600	600	700	700	700	750	800	900	1M			

*, ** See footnotes common to all selection tables.

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Copper up to 400 Amperes, 460-480 Volts, Three Phase, Based on 4% Voltage Drop

Load In Amps	In Air, Cable or Conduit				Overhead in Air*			Length of Run in Feet																							
	RH, RHW			Direct Burial	Triplex		Compare size shown below with size shown to left of double line. Use the larger size.																								
	NM** UF**	TWH, THWN THHW, SE	THHN		UF**	USE	Single	or Quad	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	900	1000	1200	1400	1600	1800	2000	
5	14	14	14	14	14	10	8	14	14	14	14	14	14	14	14	14	14	14	14	14	12	12	12	12	12	10	10	10	8	8	
7	14	14	14	14	14	10	8	14	14	14	14	14	14	14	14	14	14	14	14	14	12	12	12	12	10	10	10	8	8	8	
10	14	14	14	14	14	10	8	14	14	14	14	14	14	14	14	14	14	14	14	14	12	12	12	12	10	10	10	8	8	8	
15	14	14	14	14	14	10	8	14	14	14	14	14	14	14	14	14	14	14	14	14	12	12	12	12	10	10	10	8	8	8	
20	12	12	12	12	12	10	8	14	14	12	12	10	10	10	10	10	8	8	8	8	8	6	6	6	6	4	4	4	4	4	3
25	10	10	10	10	10	10	8	14	12	12	10	10	10	8	8	8	6	6	6	6	6	6	6	6	4	4	4	3	3	2	
30	10	10	10	10	10	10	8	14	12	10	10	10	8	8	8	6	6	6	6	6	6	6	6	4	4	4	3	2	2	1	
35	8	8	8	8	8	8	8	12	10	10	8	8	8	8	6	6	6	6	6	6	4	4	4	4	3	2	2	1	1	1	
40	8	8	8	8	8	8	8	12	10	10	8	8	8	6	6	6	6	6	6	4	4	4	4	4	3	2	1	1	1/0	1/0	
45	6	8	8	8	6	8	8	12	10	10	8	8	6	6	6	6	6	6	4	4	4	4	4	3	3	2	1	1	1/0	2/0	
50	6	8	8	8	6	8	8	12	10	8	8	6	6	6	6	6	4	4	4	4	4	4	3	3	3	2	1	1	1/0	2/0	
60	4	6	6	6	4	6	8	10	10	8	6	6	6	4	4	4	4	4	3	3	3	3	2	2	1	1	1/0	2/0	2/0	3/0	
70	4	4	6	6	4	4	8	10	8	8	6	6	4	4	4	4	3	3	3	2	2	2	2	1	1	1/0	2/0	2/0	3/0	4/0	
80	3	4	4	4	3	4	6	10	8	6	6	4	4	4	4	4	3	3	2	2	1	1	1	1	1/0	2/0	2/0	3/0	4/0	4/0	
90	2	3	4	2	3	6	4	10	8	6	6	4	4	4	4	3	3	2	2	1	1	1	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	
100	1	3	3	1	3	4	4	8	6	6	4	4	4	3	3	2	2	2	1	1	1	1/0	1/0	1/0	2/0	3/0	3/0	4/0	4/0	250	
115	1/0	2	2	1/0	2	4	3	8	6	4	4	4	3	2	2	2	1	1	1/0	1/0	1/0	1/0	2/0	2/0	3/0	4/0	4/0	250	300	300	
130	2/0	1	2	2/0	1	3	2	8	6	4	4	3	3	2	1	1	1	1/0	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	350	350	
150	3/0	1/0	1	3/0	1/0	1	1	6	6	4	3	3	2	1	1	1/0	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	300	350	400	500	
175	4/0	2/0	2/0	4/0	2/0	2	1/0	6	4	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	3/0	4/0	4/0	4/0	250	300	350	400	500	500	
200		3/0	3/0	3/0	3/0	1/0	2/0	6	4	3	2	1	1	1/0	1/0	2/0	2/0	3/0	3/0	3/0	4/0	4/0	4/0	250	300	350	400	500	600	600	
225		4/0	3/0	4/0	1/0	3/0		6	4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	3/0	4/0	4/0	4/0	250	300	350	400	500	500	600	600	
250		250	4/0	250	2/0	4/0		4	3	2	1	1/0	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	250	300	300	350	400	500	600	600	700	
275		300	250	300	3/0	4/0		4	3	2	1	1/0	1/0	2/0	3/0	3/0	4/0	4/0	4/0	250	250	300	300	350	400	500	600	600	700	700	
300		350	300	350	3/0	250		4	3	1	1/0	1/0	2/0	3/0	3/0	4/0	4/0	4/0	250	250	300	300	350	350	500	500	600	700	700	700	
325		400	350	400	4/0	300		4	2	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	250	300	300	350	350	400	500	600	600	700	700	750	
350		500	350	500	4/0	300		4	2	1	1/0	2/0	3/0	3/0	4/0	4/0	250	250	300	300	350	350	400	500	500	600	700	700	800	900	
375		500	400	500	250	350		3	2	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	300	300	300	350	350	400	500	500	600	700	700	800	900	
400		600	500	600	250	400		3	1	1/0	2/0	3/0	3/0	4/0	4/0	250	300	300	300	350	350	400	500	500	600	700	750	900	1M	1M	

*, ** See footnotes common to all selection tables.

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Aluminum up to 400 Amperes, 460-480 Volts, Three Phase, Based on 4% Voltage Drop

Load In Amps	In Air, Cable or Conduit				Overhead in Air*			Length of Run in Feet																						
	RH, RHW				Direct Burial			Compare size shown below with size shown to left of double line. Use the larger size.																						
	NM** UF**	TWH, THWN THHW, SE	THHN	UF**	USE	Single	Triplex or Quad	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	900	1000	1200	1400	1600	1800	2000	
5	12	12	12	12	12	8	8	14	14	14	14	14	14	14	14	12	12	12	12	12	10	10	10	10	8	8	8	8	6	
7	12		12	12	12	8	8	14	14	14	14	14	12	12	12	10	10	10	8	8	8	8	8	6	6	6	6	4	4	
10	12	12	12	12	12	8	8	14	14	14	12	12	12	10	10	8	8	8	8	8	6	6	6	6	4	4	3	3	2	
15	12	12	12	12	12	8	8	14	14	12	10	10	10	8	8	8	8	8	6	6	6	6	6	4	4	3	3	2	1	
20	10	10	10	10	10	8	8	14	12	10	10	8	8	8	8	6	6	6	6	6	6	4	4	4	4	3	3	2	1	
25	10	10	10	10	10	8	8	12	10	10	8	8	8	6	6	6	6	6	4	4	4	4	4	3	2	2	1	1/0	1/0	
30	8	8	8	8	8	8	8	12	10	8	8	6	6	6	6	4	4	4	4	4	3	3	3	2	2	1	1/0	1/0	2/0	
35	6	8	8	8	8	8	8	12	10	8	8	6	6	6	6	4	4	4	4	4	3	3	3	2	2	1	1/0	2/0	2/0	
40	6	8	8	8	8	8	8	10	8	8	6	6	6	6	4	4	4	4	3	3	3	2	2	2	1	1/0	2/0	2/0	3/0	
45	4	6	8	4	6	8	6	10	8	8	6	6	6	4	4	4	3	3	2	2	2	2	1	1	1/0	2/0	2/0	3/0	4/0	
50	4	6	6	6	4	8	6	10	8	6	6	4	4	4	4	3	3	2	2	2	2	1	1	1	1/0	2/0	2/0	3/0	4/0	
60	3	4	6	3	4	6	4	8	8	6	4	4	4	3	3	2	2	2	1	1	1	1/0	1/0	2/0	2/0	3/0	4/0	4/0	250	
70	2	3	4	2	3	6	4	8	6	6	4	4	3	3	2	2	1	1	1	1	1/0	1/0	2/0	2/0	3/0	4/0	4/0	250	300	
80	1	2	3	1	2	4	3	8	6	4	4	3	3	2	2	1	1	1/0	1/0	1/0	2/0	2/0	2/0	3/0	4/0	4/0	250	300	300	
90	1/0	2	2	1/0	2	4	3	8	6	4	4	3	2	2	1	1	1/0	1/0	2/0	2/0	2/0	2/0	3/0	3/0	4/0	250	300	300	350	
100	1/0	1	2	1/0	1	4	2	6	4	4	3	2	2	1	1	1/0	1/0	2/0	2/0	2/0	2/0	3/0	3/0	4/0	250	300	300	350	400	
115	2/0	1/0	1	2/0	1/0	3	1	6	4	3	3	2	1	1/0	1/0	1/0	2/0	2/0	3/0	3/0	3/0	3/0	4/0	4/0	300	300	350	400	500	
130	3/0	2/0	1/0	3/0	2/0	2	1/0	6	4	3	2	1	1	1/0	2/0	2/0	3/0	3/0	3/0	4/0	4/0	4/0	250	250	300	300	350	400	500	
150	4/0	3/0	2/0	4/0	3/0	1	2/0	4	4	2	1	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	4/0	250	250	300	300	350	400	500	600	
175		4/0	3/0	4/0	4/0	1/0	3/0	4	3	2	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	4/0	250	250	300	300	350	400	500	600	600	700	
200		250	4/0	250	2/0	4/0	2	4	2	1	1/0	2/0	2/0	3/0	3/0	4/0	4/0	250	250	300	300	300	350	400	500	600	600	700	750	
225		300	250		300	3/0	250	4	2	1	1/0	2/0	3/0	3/0	4/0	4/0	250	250	300	300	300	350	350	400	500	500	600	600	700	
250		350	300		350	4/0	300	3	1	1/0	2/0	3/0	3/0	4/0	4/0	250	300	300	300	350	350	400	400	500	500	600	700	750	900	
275		500	350		500	4/0	350	3	1	1/0	2/0	3/0	3/0	4/0	4/0	250	300	300	350	350	400	400	500	500	600	700	750	900	1M	
300		500	400		500	250	350	2	1	2/0	3/0	3/0	4/0	250	250	300	350	350	400	400	500	500	500	600	600	700	800	900	1M	
325		600	500		600	300	400	2	1/0	2/0	3/0	4/0	4/0	250	300	300	350	400	400	500	500	500	600	600	700	750	900	1M		
350		700	500		700	300	500	2	1/0	2/0	3/0	4/0	250	300	300	350	400	400	500	500	500	600	600	700	700	800	900			
375		700	600		700	350	500	1	1/0	3/0	4/0	4/0	250	300	300	350	400	500	500	600	600	600	700	700	700	900	1M			
400		900	700		900	400	600	1	2/0	3/0	4/0	250	300	300	350	400	500	500	500	600	600	600	700	750	900					