

Wire Size & Amp Ratings

- Ampacity is the maximum current that a conductor can carry continuously under the conditions of use without exceeding its temperature rating. Current is measured in amperes or “amps.” You must use the correct size wire for the current (load) requirement of the circuit to prevent the wire from overheating.
- The number and type of electrical devices connected to a circuit determine the ampacity requirement of the conductor. Usually, a general-purpose house circuit is designed for 20 amps. Lighting circuits may be designed for only 15 amps.
- To calculate the load requirement for a circuit, first add up the wattage of all the electrical devices that will be on the circuit. Then, divide the total wattage by the voltage of the system, typically 120 or 240, and that will give you the required current or amps.

Wire Gauge Size	COPPER			ALUMINUM	
	60°C (140°F)	75°C (167°F)	90°C (194°F)	75°C (167°F)	90°C (194°F)
	NM-B	THW	THWN-2	THW	XHHW-2
	UF-B	THWN	THHN	THWN	THHN
	---	SE	XHHW-2	SE	TWHN-2
	---	USE	---	USE	---
	---	XHHW	---	XHHW	---
14	15	20	25	---	---
12	20	25	30	20	25
10	30	35	40	30	35
8	40	50	55	40	45
6	55	65	75	50	55
4	70	85	95	65	75
3	85	100	115	75	85
2	95	115	130	90	100
1	---	130	145	100	115
1/0	---	150	170	120	135
2/0	---	175	195	135	150
3/0	---	200	225	155	175
4/0	---	230	260	180	205
250	---	255	290	205	230
300	---	285	320	230	260
350	---	310	350	250	280
500	---	380	430	310	350
600	---	420	475	340	385
750	---	475	535	385	435
1000	---	545	615	445	500

WARNING! Installation of electrical wire can be hazardous if done improperly, and can result in personal injury or property damage. For safe wiring practices, consult the National Electrical Code®, your local building inspector, or a qualified electrician.