

WIRE AND CABLE TERMINOLOGY

AWG Abbreviation for American Wire Gauge.

American Wire Gauge (AWG) A standard system for designating wire diameter. Also referred to as the Brown and Sharpe (B&S) wire gauge.

Ampere The unit of current. One ampere is the current flowing through one ohm of resistance at one volt potential.

Capacitance The ability of a dielectric material between conductors to store electricity when a difference of potential exists between the conductors. The unit of measurement is the farad, which is the capacitance value that will store a charge of one coulomb when a one-volt potential difference exists between the conductors. In AC, one farad is the capacitance value that will permit one ampere to current when the voltage across the capacitor changes at a rate of one volt per second.

Conductor An uninsulated wire suitable for carrying electrical current.

Dielectric Strength The voltage that an insulation can withstand before breakdown occurs. Usually expressed as a voltage gradient.

Gauge A term used to denote the physical size of a wire.

Ground An electrical term meaning to connect to the earth or other large conducting body to serve as an earth, thus making a complete electrical circuit.

HPD Heater cord with thermoset insulation and cotton or rayon braid overall.

HPN Parallel heater cord, typically neoprene-type insulation.

Hertz (Hz) A term replacing cycles-per-second as an indication of frequency.

Impedance The total opposition that a circuit offers to the flow of alternating current or any other varying current at a particular frequency. It is a combination of resistance R and reactance X, measured in ohms.

Insulation A material having high resistance to the flow of electric current. Often called a dielectric in radio frequency cable.

MTM A thermoplastic insulated machine tool wire.

NEMA Abbreviation for National Electrical Manufacturers Association.

Rated Voltage The maximum voltage at which an electrical component can operate for extended periods without undue degradation or safety hazard.

Resistance A measure of the difficulty in moving electrical current through a medium when voltage is applied. It is measured in ohms.

S Heavy duty, rubber-insulated portable cord. Stranded copper conductors with separator and individual rubber insulation. Two or more color-coded conductors cabled with filler, wrapped with separator and rubber jacketed overall, 600 V.

SJEO Same construction as SJO, except insulation and jacket made of Thermoplastic Elastomer Rubber (TPE).

SJO Same as SJ, but neoprene, oil-resistant compound outer jacket. Can also be made "water resistant." 300 V, 60°C, 75°C or 90°C.

SJT Junior hard service thermoplastic or rubber-insulated conductors with overall thermoplastic jacket, 300 V, 60°C, 75°C, or 90°C.

SJTO Same as SJT, but oil-resistant thermoplastic outer jacket.

SO Hard service cord. Same construction as type S, except oil resistant neoprene jacket. 600 V, 60°C to 90°C.

SOW Neoprene jacketed portable cord, for outdoor use (CS).

SP-1 All rubber, parallel-jacketed, two-conductor, light duty cord for pendant or portable use. 300 V.

SP-2 Same as SP-1, but heavier construction, with or without third conductor for grounding purposes. 300 V.

SP-3 Same as SP-2, but heavier construction for refrigerators or room air conditioners. 300 V.

SPE Same construction as SP-1, except insulation and jacket made of Thermoplastic Elastomer Rubber (TPE).

SPT-1 Same as SP-1, except all-thermoplastic. 300 V. with or without third conductor for grounding.

SPT-2 Same as SP-2, except all-thermoplastic. 300 V. With or without third conductor for grounding.

SPT-3 Same as SP-3, except all-thermoplastic. 300 V. With or without third conductor for grounding.

ST Hard service cord, jacketed. Same as type S, except all-plastic construction. 600 V, 60°C to 105°C.

STO Same as ST, but with oil-resistant thermoplastic outer jacket. 600 V, 60°C to 105°C.

SV Vacuum cleaner cord, rubber-insulated with rubber. Jacket rated at 300 V.

SVE Same construction as SV, except insulation and jacket made of Thermoplastic Elastomer Rubber (TPE).

SVT Same as SV, except all-plastic construction. With or without third conductor for grounding purposes only. 300 V. 60°C to 105°C.

COMPRESSOR SELECTION TABLE

Air Motor - 1 HP	6.3 CFM	Impact Wrench - 1/4"	8.8
Air Motor - 2 HP	12.5	Impact Wrench - 3/8"	5.0
Air Motor - 3 HP	18.8	Impact Wrench - 1/2"	7.5
Air Motor Hoist	1 CF/Ft of Lift	Impact Wrench - 3/4"	8.8
Backfill Tamper	6.3	Impact Wrench - 1-1/4"	13.8
Burring Tool - Small	3.8	Nutsetter to 3/8"	6.0
Burring Tool - Large	6.0	Nutsetter to 3/4"	7.5
Heavy Duty Chain Saw	21.8	Paint Spray Gun (2 to 7 CFM)	5.0
Light Duty Chain Saw	7.0	Rammer - Small	3.3
Chipping Hammer	7.5	Rammer - Medium	8.5
Circular Saw 8"	11.3	Rammer - Large	10.0
Compression Riveter	.2 CF/Cycle	Riveting Hammer	7.5
Die Grinder - Small	9.8	Scaling Hammer	3.0
Die Grinder - Medium	6.0	Screwdriver #2 to #6 Screw	3.0
Drill 1/16 to 3/8"	6.3	Screwdriver #6 to 5/16" Screw	6.0
Drill 3/8" to 9/16"	8.8	Tapper to 3/8"	5.0
Horizontal Grinder - 2"	5.0	Vertical Grinder or Sander-5" Pad	8.8
Horizontal Grinder - 4"	15.0	Vertical Grinder or Sander-7" Pad	15.0
Horizontal Grinder - 6"	15.0	Vertical Grinder or Sander-9" Pad	17.5
Horizontal Grinder - 8"	20.0		

* To determine CFMs or air requirements, add all of the duty requirements for operating air-powered devices simultaneously. The general rule is to select a larger unit than calculated, as operating loads and conditions can and do vary.

** The highest requirement a unit must operate at should determine the PSI needed. It is not recommended to use a higher pressure than that needed to do the job. Whenever possible, use a single-stage unit. For pressure requirements exceeding 100PSI, a two-stage unit should be used.