Common Welding Terms

Welding involves a lot of terms that can be confusing for beginners. This list of common welding terms and definitions will help you **learn the basics**, from A to Z!

Alloy: A substance composed of two or more elements mixed together, often two metals or a metal and a non-metal.

Alternating current *(AC)*: Electrical current that reverses direction at regular intervals; commonly used for aluminum welding.

Amperage: The measurement of the flow of electrons moving in a circuit. Also called current.

Constant current *(CC)*: Constant current welding power sources have limited maximum short-circuit current. This is compared to constant voltage (CV) power sources, which have stable, consistent voltage regardless of the amperage. Welding power sources are CC, CV or both.

Constant voltage *(CV)*: A CV welding power source maintains a relatively stable, consistent voltage regardless of the amperage output.

Current: The measurement of the amount of electricity flowing past a given point in a conductor per second. Also referred to as amperage.

Direct current *(DC)*: Flows in one direction and does not reverse its direction of flow as does alternating current.

DCEN: Direct current electrode negative, also called straight polarity. DCEN means the electrode lead is connected to the negative terminal and the work lead is connected to the positive terminal.

DCEP: Direct current electrode positive, also called reserve polarity. DCEP means the electrode lead is connected to the positive terminal and the work lead is connected to the negative terminal.

Duty cycle: The number of minutes out of a 10-minute time period an arc welding machine can be operated at maximum rated output.

Filler metal: Used to fill the space between two pieces of material to be welded.

Flux-cored wire: The filler metal wire used in flux-cored arc welding (FCAW). Shielding is obtained from a flux contained within the electrode core.

Frying bacon: A common descriptor for the sound produced during MIG welding.

MIG welding: Also referred to as GMAW or solid wire welding. It is an arc welding process that joins metals by heating them with an arc. The arc is between a continuously fed filler metal (consumable) electrode and the workpiece.

Polarity: An electrical circuit is formed when a welding power source is turned on. The circuit has either a positive or negative pole, and this property is referred to as polarity.

Puddle: Refers to the molten metal produced while the weld is being made, prior to its solidification as weld metal.

Rods: A slang term for the solid metal rods used in TIG welding.

Slag: The hardened layer left on the top of a weld to protect the weld from oxidation and atmospheric contamination.

Solid wire: Type of filler metal wire used in MIG welding with no flux filling inside of it.

Stacking dimes: A good-looking weld bead, one that looks like a shiny string of dimes stacked on top of each other. It's most frequently used to describe the weld bead produced in TIG welding.

Stick electrode: The coated consumable filler metal used in stick welding, also known as welding electrode or welding rod.

Stick welding: Arc welding process that melts and joins metals by heating them with an arc between a covered metal electrode and the work.

Stinger: Another name for the stick electrode holder in stick welding. It comes in various sizes for light- to heavy-weight welding applications.

Stitch: Also called intermittent welding or skip welding, involves laying multiple welds with spacing between them rather than having a long, continuous weld.

Straight polarity: Another term used for direct current electrode negative (DCEN) polarity. It means the electrode lead is connected to the negative terminal and the work lead is connected to the positive terminal.

Tack weld: To fasten two pieces of metal together by welding them at various isolated points; often serves to hold parts together for final welding.

TIG welding: A welding process that joins metals by heating them with a tungsten electrode, which should not become part of the completed weld. Filler metal is sometimes used, and argon inert gas or inert gas mixtures are used for shielding.

Toes of the weld: The junction of the weld face and the base metal. This term is often used when discussing how the sides of the weld penetrated to the base metal. In a cold weld, the toes aren't tied in properly. In a too-hot weld, the toes dig in too much.

Voltage: Controls your arc length, which is the distance between the weld pool and the filler metal at the point of melting within the arc.

Weave technique: Also referred to as "oscillating or stitching" it is the technique of moving the stick electrode from side to side in order to wash the sides of the weld pool into the base material.

Welding lead: An encased cable of stranded wire used to conduct electricity and power an electrode from a welding machine. It may also be called an electrode cable.

Welding rod: The consumable electrode used in stick welding.

Whip: The cable connected to the stick electrode holder or stinger.