

## WELDING TERMINOLOGY

<b>Arc Welding</b>	<b>Welding process in which heat for fusion is obtained by the arc.</b>
<b>Arc Welding Electrode</b>	A Rod or tubular wire coated with flux & the arc is struck at the end for Depositing metal
<b>Arc Time</b>	The time for which arc is maintained.
<b>Automatic Welding</b>	Welding in which the variables & sustaining of arc is controlled by the machine.
<b>Back step Welding</b>	This is a welding sequence in which short length of run are deposited in opposite direction to the general progress of weld.
<b>Base metal</b>	Metal to be joined by welding or brazing.
<b>Bead</b>	A single run of weld metal on a surface.
<b>Brazing</b>	A process of joining metals without melting the base metal by addition of a filler material generally above 450 degree centigrade.
<b>Cold Welding</b>	Welding is done in such a manner that base metal does not cross 250 degrees.
<b>Contact Welding</b>	Metal arc welding using a coated electrode always in contact with base metal during welding.
<b>Crack</b>	A linear discontinuity produced by a fracture. They can be longitudinal , edge , crater , center line or transverse on the weld metal or parent metal or in between.
<b>Cutting Electrode</b>	An electrode with a flux coating that produces extra heat to melt & blow off the molten metal by producing a cut on the work.
<b>Deep Penetration</b>	The Flux coated electrode giving deep penetration than normal fusion in the root of a groove
<b>Deposit</b>	Filler / weld metal after it becomes part of the weld.
<b>Deposition Rate</b>	The weight of a deposited metal per unit time.

<b>Dilution</b>	The mixing of filler metal with base metal / parent metal.
<b>Edge Preparation</b>	Grooving , chamfering , gouging or beveling an edge to get a groove for welding
<b>Electrode Negative</b>	DC arc welding where electrode is connected to –ve terminal of ( straight polarity ) the welding machine.
<b>Electrode Positive</b>	DC arc welding where electrode is connected to +ve terminal of ( reverse polarity ) the welding machine.
<b>Electrode Efficiency</b>	The ration of weight of the deposited metal to the weight of core wire consumed for a given electrode.
<b>Filler Metal</b>	Metal added during welding or brazing.
<b>Fillet Weld</b>	It usually forms T joint weld.
<b>Flux</b>	Chemical material used in welding, brazing to clean the surfaces, to prevent atmospheric oxidation , to promote capillary action. In arc welding the electrode is coated with flux.
<b>Fusion Welding</b>	Welding in which joint is made by melting the base metal without pressure.
<b>Gouging</b>	Forming of a groove by means of thermal cutting
<b>Gap</b>	The minimum distance at any cross section between edges , ends or surface to be joined.
<b>Hard Facing</b>	Deposition of a hard wear resistant metal by arc welding, brazing and powder spraying.
<b>Hard Facing electrode</b>	An arc welding electrode by virtue of its composition gives metal deposit harder than the parent metal deposit.
<b>Heat Affected Zone</b>	It is a zone of the parent metal which is metallurgically affected by the heat of welding / thermal cutting but not melted.
<b>Hot crack</b>	A fractured or discontinuity produced by tearing of the metal without deformation at elevated temperatures.
<b>Inclusion</b>	Slag or foreign material entrapped during welding.

<b>Incomplete root penetration</b>	Failure of the metal to reach the root of the joint.
<b>Intermittent weld</b>	A series of small length or welds at intervals along a joint.
<b>Iron powder electrode</b>	An electrode containing covering of high proportion of iron in the form of flux which acts as a filler metal.
<b>Low hydrogen electrode</b>	An electrode covered with calcium carbonate and fluoride designed to generate negligible amount of hydrogen in the arc.
<b>Manual Metal Arc welding</b>	Metal arc welding by operator with flux coated electrodes of max 18" length without application of gases & auto / semiautomatic feeding.
<b>Manual welding</b>	Welding in which all the parameters are controlled by the operator
<b>Metal arc cutting</b>	Cutting by melting using the heat of an electrode.
<b>Metal Transfer</b>	The transfer of a metal thru the arc in to the molten pool.
<b>Non Transferred Arc</b>	A constricted arc struck between an electrode within a torch & a second electrode which forms a nozzle thru which the plasma flows.
<b>Oxide inclusion</b>	Metallic oxides entrapped during welding.
<b>Open circuit voltage</b>	Voltage between two output terminals when circuit is open ( no welding )
<b>Rectifier welding set</b>	An arc welding set which converts AC in to DC.
<b>Root Pass</b>	The first run deposited in the root ( groove ) of a multi run weld.
<b>Semi- automatic welding</b>	Welding in which some of the variables are automatically controlled.
<b>Skip welding</b>	A welding sequence in which short length of weld beads are deposited longitudinally & spaced in scattered positions finally produce a continuous weld to distribute heat build up.
<b>Slag</b>	A non metallic residue produced by welding.

<b>Spatter Loss</b>	A proportion of core wire lost in the form of spatter.
<b>Spray Transfer</b>	Metal Transfer which takes place as a rapidly projected stream of droplets of diameter not larger than that of an electrode.
<b>Travel Speed</b>	Time Required to complete a unit length of a single run of weld.
<b>Under cut</b>	An irregular groove at the toe of a run on the parent metal during welding.
<b>Weaving</b>	Transverse oscillation of an electrode or of a blow pipe ( gas welding) nozzle during the deposition of welding
<b>Weld Pool</b>	The pool of liquid metal formed during welding.
<b>Weld Zone</b>	The zone including weld metal & HAZ
<b>Welding procedure</b>	A specified course of action followed in welding.
<b>Welding sequence</b>	The order direction in which weld beads are made.
<b>Welding Technique</b>	The manner in which the operator manipulated an electrode or a blow pipe.