

WELDING TECHNICAL TERMS - 9

1. **STRENGTH:** the ability of a material to withstand applied loads without failure.
2. **STRESS:** the load imposed on an object.
3. **STRESS RELIEVING:** heat treating process that involves even heating to a temperature below the material's critical temperature, followed by a slow, even cooling.
4. **STRINGER BEAD:** bead made by moving a torch or electrode holder along the weld without any side-to-side motion.
5. **SUBMERGED ARC WELDING (SAW):** process in which the electric arc is submerged under a heavy layer of flux granules.
6. **SURFACING:** the application by welding, brazing, or thermal spraying of a layer (s) of material to a surface to obtain desired properties or dimensions, as opposed to making a joint.
7. **TACK WELD:** a small weld used to temporarily hold pieces in alignment.
8. **TANK:** a thin-walled container for liquids or gases. Tank walls are thinner than the walls of cylinders used for pressurized gases.
9. **TAP:** one of several electrical contacts available on the controls of a resistance welding machine. Each tap provides a different range of amperage for the electrodes.
10. **TEFLON LINER:** a smooth seamless tubing used inside a cable to make electrode wire feed more smoothly to a GMAW welding gun.
11. **TEMPERING:** heat treating process in which metal is heated to a temperature just below its melting point. This heating decreases the metal's hardness, while increasing its toughness.
12. **TENSILE SHEAR:** amount of force required to pull a spot weld apart in a direction perpendicular to the weld axis or "in shear".
13. **TENSILE STRENGTH:** measurement of the amount of force required to pull metal apart.
14. **TENSILE TEST:** a test in which a specially prepared sample is pulled until it fails. The test determines the weld's ability to withstand forces that would pull it apart.
15. **TERMINALS:** the physical connectors on a welding machine for attaching the work piece lead and the electrode lead.
16. **THERMAL RADIATION:** heat rays given off by a welding arc or oxyfuel gas flame, or by the heated base metal.
17. **THERMAL SPRAYING:** a process in which a material (metallic or nonmetallic) is heated and sprayed onto a surface.
18. **THORIA:** a metal used in GTAW electrodes.
19. **THROAT OF A FILLET WELD:** distance from the weld root to the weld face; also known as the "actual throat".
20. **TIP:** the end of the torch where the fuel gas mixture burns, producing a high-temperature flame. Also used to refer to the end of the electrode in the spot welding process.