

**AWS A3.0:2001**  
**An American National Standard**



# **Standard Welding Terms and Definitions**

**Including Terms for Adhesive  
Bonding, Brazing, Soldering,  
Thermal Cutting, and  
Thermal Spraying**



**American Welding Society**



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**Standard Welding**  
**Terms and Definitions**  
**Including Terms for Adhesive Bonding, Brazing,**  
**Soldering, Thermal Cutting, and Thermal Spraying**

**Supersedes ANSI/AWS A3.0-94**

Prepared by  
AWS A2 Committee on Definitions and Symbols

Under the Direction of  
AWS Technical Activities Committee

Approved by  
AWS Board of Directors

## **Abstract**

This standard is a glossary of the technical terms used in the welding industry. Its purpose is to establish standard terms to aid in the communication of welding information. Since it is intended to be a comprehensive compilation of welding terminology, nonstandard terms used in the welding industry are also included. All terms are either standard or nonstandard. They are arranged in the conventional dictionary letter-by-letter alphabetical sequence.



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# Standard Welding Terms and Definitions

## Including Terms for Adhesive Bonding, Brazing, Soldering, Thermal Cutting, and Thermal Spraying

**Note:** Vertical lines preceding terms indicate where changes (additions, modifications, corrections, deletions) from the 1994 edition were made. A single line represents a minor or editorial change. Double lines represent a new term or a major change.

**Boldface** indicates standard terms, lightface indicates nonstandard terms. Terms for standard welding processes and for standard welding process variations are followed by their standard letter designations.

### A

**abrasion soldering.** A soldering process variation during which the faying surface of the base metal is mechanically abraded.

**abrasive blasting.** A method of cleaning or surface roughening by a forcibly projected stream of abrasive particles.

**absorptive lens.** A filter lens designed to attenuate the effects of glare and reflected and stray light. See also **filter plate**.

**accelerating potential,** *electron beam welding and cutting.* The potential that imparts velocity to the electrons.

**acceptable weld.** A weld that meets the applicable requirements.

**acetylene feather.** The intense white, feathery-edged portion adjacent to the cone of a carburizing oxyacetylene flame. See Figure 40.

**acid core solder.** A solder wire or bar containing acid flux as a core.

**activated rosin flux.** A rosin base flux containing an additive that increases wetting by the solder.

**active flux,** *submerged arc welding.* A flux formulated to produce a weld metal composition that is dependent on the welding parameters, especially arc voltage. See also **alloy flux** and **neutral flux**.

**actual throat.** The shortest distance between the weld root and the face of a fillet weld. See Figure 25. See also **effective throat** and **theoretical throat**.

**adaptive control,** *adj.* pertaining to process control that automatically determines changes in process conditions and directs the equipment to take appropriate action. See also **automatic,** **manual,** **mechanized,** **robotic,** and **semiautomatic**.

**adaptive control brazing.** See **adaptive control welding**.

**adaptive control soldering.** See **adaptive control welding**.

**adaptive control thermal cutting.** See **adaptive control welding**.

**adaptive control thermal spraying.** See **adaptive control welding**.

**adaptive control welding.** Welding with a process control system that automatically determines changes in welding conditions and directs the equipment to take appropriate action. Variations of this term are **adaptive control brazing,** **adaptive control soldering,** **adaptive control thermal cutting,** and **adaptive control thermal spraying.** See Table 4. See also **automatic welding,** **manual welding,** **mechanized welding,** **robotic welding,** and **semiautomatic welding**.

**adhesive.** A polymeric material having chemical and physical properties differing from those of the base materials, placed at their faying surfaces, to join the materials together as a result of the attractive forces of this polymeric material.

**adhesive bond.** An attraction, generally physical in nature, between an adhesive and the base materials.