

prevent air from entering the back of the torch. See Figure 36.

backfire. The momentary recession of the flame into the welding tip, cutting tip, or flame spraying gun, followed by immediate reappearance or complete extinction of the flame, accompanied by a loud report.

backgouging. The removal of weld metal and base metal from the weld root side of a welded joint to facilitate complete fusion and complete joint penetration upon subsequent welding from that side.

backhand welding. A welding technique in which the welding torch or gun is directed opposite to the progress of welding. See Figure 21. See also **drag angle**, **forehand welding**, **push angle**, **travel angle**, and **work angle**.

backing. A material or device placed against the back side of the joint adjacent to the joint root, or at both sides of a joint in electroslag and electrogas welding, to support and shield molten weld metal. The material may be partially fused or remain unfused during welding and may be either metal or nonmetal. See Figures 8(D), 12, and 37.

backing bead. A weld bead resulting from a backing weld pass.

backing filler metal. A nonstandard term for **consumable insert**.

backing gas. Backing in the form of a shielding gas employed primarily to provide a protective atmosphere.

backing ring. Backing in the form of a ring, generally used in the welding of pipe.

backing shoe. A backing device used in electroslag and electrogas welding that remains unfused during welding. See Figure 37.

backing weld. Backing in the form of a weld. See Figure 24(D).

backing weld pass. A weld pass resulting in a backing weld.

backstep sequence. A longitudinal sequence in which weld passes are made in the direction opposite to the progress of welding. See Figure 23(A).

backup, flash and upset welding. A locator used to transmit all or a portion of the upset force to the workpieces or to aid in preventing the workpieces from slipping during upsetting.

back weld. A weld made at the back of a single groove weld. See Figure 24(C).

back weld pass. A weld pass resulting in a back weld.

balling up. The formation of globules of molten filler metal or flux due to lack of wetting of the base metal.

bare electrode. A filler metal electrode that has been produced as a wire, strip, or bar with no coating or covering other than that incidental to its manufacture or preservation.

bare metal arc welding (BMAW). An arc welding process that uses an arc between a bare or lightly coated electrode and the weld pool. The process is used without shielding, without the application of pressure, and filler metal is obtained from the electrode. This is an obsolete or seldom used process.

base material. The material that is welded, brazed, soldered, or cut. See also **base metal** and **substrate**.

base metal. The metal or alloy that is welded, brazed, soldered, or cut. See also **base material** and **substrate**.

base metal test specimen. A test specimen composed wholly of base metal.

base metal zone (BMZ). The portion of base metal adjacent to a weld, braze or solder joint or thermal cut that has not been affected by welding, brazing, soldering, or thermal cutting. See Figure 24(G). See also **heat-affected zone** and **weld metal zone**.

base plate. A nonstandard term when used for **base metal**.

bead. See **weld bead**.

bead weld. A nonstandard term for **surfacing weld**.

beam divergence. The expansion of a beam's cross section as the beam emanates from its source.

bend test. A test in which a specimen is bent to a specified bend radius. See also **face bend test**, **root bend test**, and **side bend test**.

berry formation. A nonstandard term for **nozzle accumulation**.

bevel. An angular edge shape. See Figures 6 and 7.

bevel angle. The angle between the bevel of a joint member and a plane perpendicular to the surface of the member. See Figure 6.

bevel edge shape. A type of edge shape in which the prepared surface or surfaces lies at some angle other than perpendicular to the material surface. See Figures 7(B) and 7(C).

bevel face. The prepared surface of a bevel edge. See Figures 6(G) and 6(H). See also **groove face** and **root face**.

bevel-groove weld. A type of groove weld. See Figures 8(B) and 9(B).

bevel radius. The radius used to form a J edge. See Figures 6(B) and 6(E).

bit. That part of the soldering iron, usually made of copper, that directly transfers heat (and some solder) to the joint.

blacksmith welding. A nonstandard term when used for **forge welding**.

-**blasting.** See **abrasive blasting**.

blind joint. A joint, no portion of which is visible.

block brazing (BB). A brazing process that uses heated blocks applied to the joint. This is an obsolete or seldom used process.

block sequence. A combined longitudinal and cross-sectional sequence for a continuous multiple-weld in which separated increments are completely welded before intervening increments are welded. See Figure 23(B). See also **case sequence**, **cross-sectional sequence**, **progressive block sequence**, and **selective block sequence**.

blowhole. A nonstandard term when used for **porosity**.

blowpipe. See **brazing blowpipe** and **soldering blowpipe**.

bond. See **covalent bond**, **ionic bond**, **mechanical bond**, and **metallic bond**.

bond bar. A nonstandard term for **bond specimen**.

bond cap. A nonstandard term for **bond specimen**.

bond coat, thermal spraying. A preliminary (or primary) coat of material that improves adherence of the subsequent thermal spray deposit.

bonded flux, submerged arc welding. A granular flux produced by baking a pelletized mixture of powder ingredients and bonding agents at a temperature below its melting point, but high enough to create a chemical bond, followed by processing to produce the desired particle size. See also **agglomerated flux** and **fused flux**.

bonding. A nonstandard term when used for **brazing** and **welding**.

bonding force. The force that holds two atoms together. It results from a decrease in energy as two atoms are brought closer to one another.