

# SEGD Glossary of Terms

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**Note:** The following glossary includes many words which have established meanings in conversational English, but which have very specific meanings in wayfinding and sign fabrication. For the sake of brevity the general definitions have been omitted.

## a

**abatement** – in law, the removal or control of an annoyance, such as a sign not meeting a community’s sign code. Most commonly used as term associated with removal of asbestos.

**abrasive method** – acid-etching or sandblasting to alter the surface of a material. The material is masked and an abrasive method applied, incising a graphic into substrate

**absorption** – the dispersal of visible light as it interacts with matter, decreasing its transmission. The end result is a modification of the material’s color.

**acceleration** – the force of a knife-plotter head moving from a stopped position to its fastest linear (straight-line) speed. Measured in grams, it gives the zero-to-60 indication of plotter speed, but a better overall indication is THROUGHPUT.

**access door** – a door or panel that provides access to concealed equipment, most often electrical components, for inspection, maintenance, and repair.

**access panel** – removable or swinging panel, usually flush with adjoining surface, that provides access to concealed equipment or system components for inspection, maintenance, and repair.

**acetate** – a thin flexible plastic sheet usually available in roll form. Durable and stretch-resistant, this clear material is normally used as a substrate in point-of-purchase signs. Available in glossy and matte finishes.

**achromatic colors** – neutral colors, such as white, gray, and black, with no apparent hue properties.

**acid-etching** – a method similar to sandblasting, used primarily for marking glass. A stencil of the artwork is either hand- or computer-cut and applied to the glass, which is then brushed with an acid mixture such as ammonium and sodium bifluoride. After a specified length of time, the surface is washed and the stencil removed. Also called *etching*.

**acrylic** – often used as a generic term for plastics used in signmaking. Acrylic is a type of plastic (Plexiglas , Acrylite, are well known proprietary trade names) characterized by clarity, transparent and opaque color ranges, and paintability. It also has excellent machinability. Cast and extruded acrylics have different qualities and tolerances.

**acrylic paint** – a type of paint or ink with an acrylic resin base, normally used in silkscreening and screen-printing and when hand-painting signs.

**A.D.A** – See AMERICANS WITH DISABILITIES ACT. See SEGD ADA WHITE PAPER for more information.

**A.D.A.A.G.** – Americans with Disabilities Accessibility Guidelines. National standards that were put into place in 1990 to ensure equal access for all persons in America. A.D.A.A.G. specifies legible letter forms, letter heights, Braille and tactile lettering as well as materials and finishes, among other issues. See SEGD ADA WHITE PAPER for more information.

**additive colors** – when red, green, and blue lights (the three additive colors) come together in equal proportions, the resulting light is white. Also called “additive primaries.” See also *primary colors*.

**adhesion** – the ability of two materials to be held together at the molecular level. Normally created by use of an adhesive such as double-sided tape or glue. Can also refer to magnetic adhesion, or mechanical adhesion by suction, Velcro, etc.

**adhesive** – a material able to hold two surfaces or materials together. Often activated by heat or pressure. Examples include tape, glue, paste, synthetic resin, epoxy or silicone adhesives.

**Adobe Acrobat** – software for Portable Document Format (PDF) files that allows the reader to view and print a document as originally designed without having to install the particular program or fonts used to create the file. Software for viewing PDF files is Acrobat Reader, and software for altering published PDF files is Acrobat Distiller, both created by Adobe Systems.

**advance notice sign** – a sign used to provide an advance notice prior to a roadway, street, or building entrance. Similar to a directional sign, but usually announces a single destination. Also called *approach sign*.

**aging** – See BURNING-IN.

**AIA** – American Institute of Architects.

**AIGA** – American Institute of Graphic Arts.

**airbrush** – a device used in hand-painting that utilizes compressed air to generate a fine spray of paint. As air passes through the head of the airbrush, a vacuum is created, siphoning the paint up from its container. Airbrushes come in a variety of sizes with different heads and tips depending on the detail required.

**aluminum** – a light common material used in sign panels, poles and frames.

**ambient light** – the general level of light, or background light, in a given environment. The ambient light level is the sum of all light (direct and indirect) in a given area emitted by natural and manmade sources at a given time. It can affect the legibility of signs, and may require alterations in illumination methods.

**Americans with Disabilities Act (A.D.A.)** – this legislation was enacted by the federal government in 1991 in order to remove barriers in the environment that limit any individual’s ability to function in the physical environment. Within the five titles of the ADA is Title III, which pertains to signs.

**anchor** – any device that secures one object to another and does not give way, as well as the process of installing those devices. In signmaking, this term refers particularly to the fasteners that are used to secure awnings and fascia signs to facades. See also *J-bolt*.

**angle** – an extruded length of material, usually plastic, aluminum, or steel, in the shape of an L (right angle). A *structural angle* has rounded, or radiused, interior corners and more inherent strength than *architectural angle*, which has crisp, 90-degree interior corners.

**angle iron** – a length of structural iron or steel having a 90-degree (right angle) bend running parallel to the length. Used in a variety of applications including structural framework inside sign cabinets to support skin.

**animated sign** – a sign that shows motion or changes in copy or color, most often through the use of electric or electronic means.

**anodized finish** – an electrochemical coating applied to the surface of metal, to harden, protect, and enhance the beauty and durability of metal surface. The type of finish typically applied to aluminum may include tints, colors, or clear coatings. The anodizing process builds an oxide film on the surface by making the aluminum the anode, or electrically positive element, in a suitable electrolyte (chromic or sulfuric acid solution).

**ANSI** – American National Standards Institute (Washington DC)

**application** – the installation of vinyl on a surface. Two main methods are used: wet and dry. *Wet application* involves the use of a soapy solution or special fluid on a surface, allowing the vinyl and its transfer-tape carrier to be positioned before final placement. *Dry application* places the vinyl and transfer tape immediately in its final position, and usually involves hinging for setting the material.

**approach** – the area along a street or sidewalk from where a sign first becomes visible until the display is no longer readable as the viewer passes by.

**approach sign** – See ADVANCE NOTICE SIGN.

**arc** – a curved line segment that is a segment of the circumference of a circle.

**architectural signage** – a term that was coined in the 1960s to identify visual communications and wayfinding information in the built environment. Hence, physical enhancements to a building or space with the purpose of identifying or communicating information. See also *environmental graphics, sign*.

**area of rescue assistance** – a safe location, usually in a high-rise building, where physically challenged or incapacitated individuals are to wait for assistance in case of emergency.

**art / artwork** – all copy, graphics, and logos used in preparing a job. See also *copy, electronic art*.

**ascender** – in a given typeface, the portions of the lower case *b, d, f, h, k,* and *l* that extend above the height of the lower case *x*. See also *descender*.

**ASLA** – American Society of Landscape Architects.

**aspect ratio** – the relationship between an image's horizontal length and vertical height.

**awning** – a shelter usually constructed of nonrigid materials on a supporting framework that projects from and is supported by the exterior wall of a building. An awning may or may not be illuminated and/or decorated with graphics to serve as a sign. There are also glass and metal awnings. Also called *canopy*.

**axis** – the geometric guidelines used to place a coordinate that determines knife and/or tool paths for plotters and routers.

**axis swapping** – the process where sign-production software temporarily transposes a plotter's *x*- and *y*-axes. The function allows long, thin jobs along the *x*-axis to be cut across a vinyl sheet's width, saving material.

**b**

**back-lighted sign** – a sign consisting of a cabinet containing a light source surrounded by one or more translucent faces, which may be illuminated for visibility.

**back-to-back** – two or more sign faces mounted on a common structure but facing in opposite directions; many pole signs are back-to-back or double-sided.

**baked enamel** – a type of metal finish. Special enamel paint is sprayed or screen-printed on the metal surface, dried, and then cured. The result is an extremely durable surface similar to that found on many appliances.

**balance** – in design, the relationship between the design elements such that opposing forces have equal distribution of weight in the layout. The overall quality of a design that makes it feel right.

**ballast** – a device that operates as part of a fluorescent lamp and is designed primarily to provide sufficient starting voltage. The ballast may also heat the lamp electrodes and, once the tube is in operation, limit the amount of electrical energy going through the lamp.

**ballpoint Braille** – small beads that are inserted into sign faces to accommodate Braille information, as required by the A.D.A. These beads can be clear, plastic or metal depending on the material into which they are inserted. See also *Braille bullets / beads*.

**banding** – in a color gradation, visibly distinct differences, or sequential patterns between color levels, instead of a smooth transition of colors or other effects. Banding can take place in continuous-tone images on a display using less than 24-bit information, or when printing gradients without sufficient color information. Can also apply to an imperfect airbrushed or painted gradation.

**banner** – a sign made of fabric, plastic, or other nonrigid material which has no enclosing framework. It may be painted, screen-printed, digitally printed, or decorated with vinyl. See also *flag*.

**base** – **1.** the trim beneath the bottom molding of a sign or bulletin. **2.** the foundation or support of freestanding sign. See also *footing*. **3.** the first or background color(s) in screen-printing.

**billboard** – a large outdoor board used for posting advertising. The name comes from the traditional practice of posting bills, or pre-painted messages. In the 19th century, it became common for businesses to lease separate board space for their bills, hence the name billboard.

**binder** – a substance that binds two other substances together. For instance, lacquer is used as a binder when painting with some metallic dusts. Many paints require binders.

**bitmapped** – describing when arranged pixels comprising a graphic or an image become visible/detectable by the human eye. When incompatible image file formats are imported, often the graphic will appear bitmapped with squared-off pixels resulting in jagged edge effect on perimeter of line art or loss of resolution on images.

**blade sign** – a type of projecting sign mounted on a building facade or storefront pole or attached to a surface perpendicular to the sign's surface and to the normal flow of traffic.

**blank** – **1.** an undecorated face with no cabinet. Also called INSERT

**bleed** - in screen-printing, bleed refers to the portion of an image that extends beyond the area of the finished print. When the print is cut or die-cut, the bleed is cut away. Bleed is also used to describe the area where one color overprints or traps another for purposes of registration. See also *trapping*.

**blind fasteners** – mechanical attachment devices hidden from view that facilitate the attachment of signs, lettering or sculptured pieces to other surfaces. Can be vandal-resistant, tamperproof, removable, or permanent. Also called *concealed fasteners*.

**blistering** – the end result of poor adhesion by either paint or vinyl to a substrate, leaving the surface covered with bumps of various sizes and indeterminate shapes similar to blisters on the human skin.

**block colors** – colors that are printed without gradations, tints, or shades, that is, in “poster style.”

**blockout** – **1.** an opaque paint used in the production of neon signs to block out the crossover connections between letters. Special paints have been formulated for this purpose that offer a high degree of adherence to glass, as well as resistance to weather, heat, light, high voltages, and corona discharge. Paints with metallic bases should be avoided because of their ability to conduct electricity. **2.** a type of liquid mask used to seal accidental holes in a stencil in areas not intended to be screen-printed.

**bollard** – a thick low post, or series of posts that help define or border a pedestrian or other public area.

**BOMA** – Building Owners and Managers Association.

**bonderizing** – a process where sheet metal is zinc-coated and then treated to allow paint to adhere. Used in created baked enamel signs.

**border** – most commonly a line or repetitive design used to emphasize or set apart all or portions of a sign’s art. In electric signs, illuminated tubes and arrows or decorative molding may also serve as borders.

**bounding box** – the area of an on-screen image at its maximum *x*- and *y*-axis measurements. Altering the bounding box by moving its control points can change the shape or size of an image. Bounding boxes allow scaling of all graphics images in PostScript file types.

**Braille** – raised bumps or dots set in established patterns to communicate letters and words to the visually impaired. Grade 2 Braille is required by A.D.A., due to its more widespread use in the visually impaired community. System created by Louis Braille (1809&ndash;52) by modifying the Barbier “point writing” system used for coded army messages.

**Braille bullets / beads** – See BALLPOINT BRAILLE.

**break-away foundation** – [A pole and foundation system where the pole detaches cleanly from the foundation upon impact. Required by many state highway authorities.](#)

**broadside** – a large advertising poster.

**bronze** – an alloy of copper and tin with traces of other metals (zinc, nickel, and lead), used for sculpture, sign plaques, and dimensional lettering. Letters or forms can be cut out of solid material (using a band saw or a waterjet). It can be cast (sand-cast, ceramic mold-cast). It can be fabricated from thin sheets to create dimensional letters (fabricated and soldered). Bronze signs may be lacquered to prevent oxidation, pre-oxidized, or left to oxidize naturally. Many finishes are available; patinaed, oil-rubbed, clear-lacquered, polished, brushed, etc.

**brushed finish** – a nonreflective, textured finish mechanically or chemically applied to metal for decorative purposes. Grained effect is usually created using sandpaper. Long grain finish applied by hand or via belt sander. Short grain finish applied by using a drum sander.

**bulletin** – outdoor advertising method in which the client’s message is either painted directly on a large steel or plywood board or preprinted and then posted. Common bulletin sizes are 10’6” x 36’ and 14’ x 48’. Also known as a *billboard*.

**bulletin colors** – specially prepared enamel paints preferred by many sign painters for hand-lettering. Bulletin colors are formulated to cover well, dry quickly, and resist fading.

**burning-in** – this process is recommended to bring a neon tube to its proper brilliance. It is done by connecting the completed tube to a transformer similar to that which will be used in the installation, and allowing it to remain lighted until proper brightness, color, and electrical properties are achieved. Also called *aging*.

**burnish** – to polish by rubbing. For instance, after gold leaf is applied to a substrate, it is burnished with a cotton cloth to bring up the shine and reveal any holes where the leaf will have to be applied a second time.

**butt joint** – See SEAM.

## C

**CAD** – computer-aided design.

**calendered** – a method of forming plastic sheeting by pressure under a roller.

**CAM** – computer-aided machine.

**camera-ready art** – artwork that has been prepared for production via photographic process. Has been replaced with scanned and digital imagery.

**can** – an informal term for the edge and components of an electric sign. Some sign companies buy ready-made cans and only manufacture the faces of electric signs. Also called *sign cabinet*.

**candela** – a unit of measure indicating the intensity produced by a ray of artificial light in a given direction (used for point by point calculations). Abbreviation, **cd**.

**canopy** – See AWNING.

**carved letters** – usually v-carved, u-carved or squared-carved into wood or stone. Created by hand-carving with chisel and mallet, sandblasting technique, or by a computer-controlled router or engraver. Two types of carving, bas-relief and incised, are generally done by hand.

**carved signs** – letters or shapes incised or relieved into sign substrate surface. Can refer to routing process but normally used as term with regard to hand-carving or sandblasting into stone, wood or glass.

**CAS** – computer-aided signmaking.

**cast acrylic** – a type of plastic sheeting formed by spreading a molten vinyl mixture on a carrier sheet or web, and then baking at high temperatures to remove solvents and to fuse the remaining material into a film.

**cast dimensional letter/numeral** – typically cast aluminum, bronze, acrylic, or resin.

**casting** – a method for mass-producing metal or plastic letters or individual metal signs. Depending on the material, a rubber, metal, or sand form mold of the item to be cast is prepared. The molten material is then poured into the mold. Once the cast material is cool, it is removed from the mold and finished.

**cast metal sign** – usually aluminum or bronze plaque or sculptural element.

**changeable copy sign** – a sign on which the copy can be changed, either manually through the use of attachable letters (usually plastic), mechanically using rotating panel elements, or

electronically using computer-controlled incandescent bulbs, light-emitting diodes (LED), liquid crystal displays (LCD), plasma screen, etc. See also *LED sign*, *LCD sign*.

**channel** – an extruded length of material – plastic, aluminum, steel – in the shape of a squared-off U (a rectangular box with one side removed). *Structural* channel has rounded, or radiused, interior corners and more inherent strength than *architectural* channel, which has crisp, 90-degree interior corners.

**channel letter** – the outline of a letter, with metal returns, into which a neon tube is placed. The depth of the channel may vary, depending on the viewing angle. The channel letter may be open-faced, plastic-faced, or a reverse channel letter with halo illumination.

**charrette** – an intense period of time during which a great amount of energy is dedicated to solving a specific design problem or problems by a given deadline. It is the French word for "cart," and was originally used by students at the Ecole de Beaux Arts in Paris when, after working all night, they would load their boards onto a cart and push it from the student quarter to the school, shouting "*Charrette! Charrette!*" to avoid collisions with pedestrians.

**chase** – **1.** the illusion of movement in illuminated signs created by turning the lighting elements on and off in sequence., achieved by using a chaser, an electric component that can be programmed to provide the on and off sequence, or a computer control. **2.** to decorate metal, typically by engraving or cutting.

**chrome plate** – an electrochemical process to plate steel, brass, or aluminum most commonly with mirror chrome, but it can also be brushed or dulled down. Black chrome and nickel plate are created by the same electrochemical process but using different metal compounds. See also *metal finishes*.

**cladding** – a facade or decorative cover added to an existing sign pole or base, installed well after the rest of the sign is built.

**classic glass** – tubing used for neon signs or artwork in which the glass itself is colored, achieving a deep, saturated color not possible with clear glass and phosphorous coatings; typically a soda-lime&ndash;based glass.

**clearance** – the shortest distance between the lowest portion of a sign or awning and the finished grade level. Also called *height above grade*.

**coating** – the process of applying a protective film to a sign. Coating includes such diverse activities as applying a layer of varnish over gold leaf to laminating clear vinyl over a digitally produced graphic.

**coat-out** – to paint the surface of a sign face before the art is applied. In addition to priming new substrates, it is possible to coat-out an old sign and apply new lettering.

**code** – typically refers to a municipality's sign regulations or SIGN CODE.

**cold cathode** – the technical name for all forms of pumped gas, e.g., neon lighting. In the United States this term is typically used to refer to 18mm to 25mm tubing operating at currents between 60mA and 240mA. These neon lights also have electrodes that depend on a large emission surface area rather than high temperature for their operation.

**color** – the aspect of any object described by the hue, lightness, and saturation of electromagnetic waves within the wavelength spectrum visible to the human eye.

**color contrast** – **The differential between foreground lettering a sign and the background panel**

**color separation** – in screen-printing, the pre-press process during which each individual color in the art is isolated for creation of its own stencil. In process-color printing and digital printing, the image is divided into separate stencils for yellow, magenta, cyan, and black. Although the process of making color separations used to be done manually or using colored negatives or filters, today the job is relegated to the computer, which also generates color separations for large-format imaging.

**color wheel** – diagrammatic arrangement of the visible spectrum of electromagnetic radiation (color) in a circular fashion so that the primary colors (red, yellow, blue) are located 180 degrees from the secondary colors that complement them (green, violet, orange, respectively).

**column** – vertical groups of lamps in a lamp bank, or a vertical row of light-emitting diodes in an LED matrix.

**component** – one of the parts or pieces that together make a complete system or design. Reference is often made to design components or the electrical components of a sign.

**composite pole** – A pole made of PVC pipe with an internal core or concrete or aggregate.

**concealed fasteners** – See BLIND FASTENERS.

**concrete sign** – includes poured-in-place, precast, or other sign products having the qualities of cement. Concrete is the substrate to which plaques, letters, or panels are attached, painted on, cast into, incised into, sandblasted into, etc., to create an identifying device.

**condensed** – a font, the proportion of which has been altered by reducing the width of the letters, numbers, and symbols to bring them closer together, therefore shortening the line.

**conduit** – a channel or pipe for protecting electric cables.

**construction barricade** – a fence around construction site, occasionally decorated with descriptive, advertising, or identification graphics. Normally fabricated using wooden structural members and plywood sheets in exterior application or sheet metal studs and sheetrock or plywood for interior applications.

**construction site sign** – announces project credits and information regarding a construction project such as architect, developer, consultants, financing, etc. Typically painted, vinyl, or digital print mounted onto plywood or exterior-grade particle board substrate. Also called *job site sign*.

**contract documents** – written specifications and design control drawings. Usually used to define the deliverable sign products between two parties (typically between the designer / owner and the fabricator / contractor). See also *design intent drawings*, *shop drawings*.

**contrast** – in design, the use of dissimilar or opposing elements, such as light and dark areas, warm and cool colors, or script and block typefaces.

**control console** – in electronic signage, the device that receives information entered on a keyboard by the operator and transfers that information to the sign's message controller.

**control point** – in computer graphics, a connection between two line/arc segments or a selectable handle on a bounding box. Moving a control point changes the shape of an object, altering a line path, shape, or size. Also called *node*.

**coordinate** – a point that can be referenced by its position on the *x*-, *y*-, or *z*-axes of a plotter or router. The use of line or arc segments to connect coordinates creates paths for knives orbits to follow when cutting or routing an image.

**copy** – most commonly, the words or message to be displayed on a sign. May be expanded to include all graphics on a sign face. See also *art / artwork*.

**corian®** - A material produced from marble dust.

**corona treatment** – a process that alters static charge of sheet material, especially corrugated plastic, for greater adhesion of media used for decoration.

**corrugated board** – a board created by gluing a corrugated piece to a flat face, or between two flat faces to increase the strength. Corrugated board is made from a variety of materials (most commonly plastic in sign work) and comes in a range of strengths and thicknesses.

**cor-ten steel** – a steel alloy that forms a tenacious, self-protecting rust layer when exposed to the atmosphere. A material with a unique appearance well used in applications where maintenance is an issue. Also called *weathering steel*.

**counter** – in a given typeface, the enclosed areas within letterforms or symbols, such as those found in the letters *a, b, d, e, g* and *o*.

**cove lighting** – a type of indirect illumination created by placing a lighting source inside a continuous trough or cove to hide the light source and produce an upward glow. Usually produced using neon, cold cathode, or fiber-optic tube lighting.

**coverage** – the area (usually given in square inches or feet) that a given material will coat-out, e.g., a quart of paint will provide coverage for 100-square feet.

**craze** – thin cracks or breaks in paint, plastic, or vinyl. Although the main cause of crazing is weathering, it may also be caused by the incompatibility of paint layers or solvents.

**crossbar** – a horizontal arm that is attached to a sign. The crossbar typically runs perpendicular to the sign's face and parallel to the building's facade. It is used with guy wires to help stabilize building-mounted signs.

**crossover** – the connection between two portions of a neon tube. It is not supposed to be seen in the finished sign. Typically, crossovers are coated with blockout, although they can also be wound with tape.

**CRT (cathode ray tube) screen** – used for television screens and computer monitors. They can be used individually (as seen in airport arrival / departure signs) or adapted for electronic displays by stacking a grid of monitors together and generating computer images. See also *electronic message signs*.

**CSI** – Construction Specifications Institute.

**curing** – the process of effecting a chemical change in some inks by the application of heat or ultraviolet light.

**current** – the flux, or rate of flow, of electrical charge in a conductor. A unit of current is typically given in amperes or milliamps (mA).

## d

**deboss** – the process of producing depressed letters in a surface, particularly those produced by engraving dies or plates.

**decal** – an applique of words, graphics, or a combination of the two, screen-printed on the nonadhesive side of vinyl film, then cut to a specified shape using a plotter or die. Decals are often created when a large number of identical pieces are required.

**degreasing** – the process of removing residual oil or grease from a material.

**delamination** – the separation of layers in a laminated substrate. The main cause of delamination is adhesive failure.

**density** – the quality of being close or compact; dense. In physics, density is a ratio of the mass of an object to its volume. In signmaking, it is a measurement used to express the hardness of foam boards, expressed in pounds-per-cubic-foot.

**deposit** – the amount of ink applied to a substrate.

**descender** – in a given typeface, the portions of the lowercase *g, j, p, q, y*, and in some fonts *f* as well as uppercase *J* that extend below the baseline of the letter. See also *ascender*.

**design** – at its simplest, a synonym for layout. Also, the process involved in creating a sign including conceptualizing the idea, choosing the colors, typefaces, and graphics, and arranging to be most effective for the given situation.

**design intent drawings** – drawings that show only the size, profile, and basic relationship of parts, but no specific details of material or construction. Usually, these drawings are provided as bid documents from which the selected fabricator develops shop drawings and/or prototypes to define and confirm specific details.

**die-cut** – refers to the outline made with a steel-rule die manufactured for the purpose of cutting out a particular shape or job. Die-cutting is commonly done when a large number of items, such as decals, are to be cut, or the shape consists of something other than straight lines. Die-cut can also refer to the object that has been cut.

**digital color signage** – computerized output (usually sheet materials) that can be applied to fabric, vinyl, paper, high-pressure laminates, fiberglass embedment, and other material.

**directional sign** – a sign intended to provide directional information. While a directional sign may be considered any on-premise sign that provides such information, the Highway Beautification Act sets guidelines for the size, placement, and content of purely directional signs.

**directory** – usually a list of names of people, offices, or destinations at a specific building, facility or public venue. May provide text listings or include maps, site plans, or diagrams.

**“disabled” access/parking** – commonly used misnomer for identifying facilities for persons with disabilities. These misnomers include "disabled access", "disabled parking", etc. "Accessible parking" is the term used in many areas. Legal requirements vary from state to state.

**documentation** – process of recording and conveying design intent information. Used as a tool for recording and reviewing shapes and data throughout design process, from schematics through design development to design intent drawings and finally to contract documents. See also *schematic design, design intent drawings, contract documents*.

**donor recognition** – a sign, plaque, or graphic display to recognize and honor the contributions of a person(s) or organization to an entity, project, or a facility.

**D.O.T. / DOT symbols** – the US Department of Transportation has issued international symbols for transportation graphics that have become a standard in vehicular and pedestrian signing in the United States.

**double back** – a 180-degree bend used in neon tubes to produce such letters as *R, E, F*, and *G*, as well as other designs. Often used to describe the technique and placement of the electrode on a neon unit.

**double-face** – a sign with two parallel but opposing faces; a back-to-back sign.

**double tube** – two neon tubes running parallel to each other, often used to create outlines or borders.

**draw** – in the manufacture of plastic letters and sign faces by embossing, debossing, or vacuum-forming, draw is the depth of the shaped letter or face from the original plane of the material.

**dye** – a colorant that is dissolved in a liquid and applied to a surface or texture to change appearance.

## e

**edge** – the part of the sign that encloses the back and face or faces; the frame.

**edge lighting** – a technique used to illuminate (by internal refraction) carved, incised, or sandblasted lettering and images, usually glass or acrylic, by lighting the edge of the transparent material.

**edging** - The act of chamfering a sharp corner.

**egg crate** – a patterned piece of plastic installed below a light source in illuminated awnings or light fixtures to protect the light source from damage or direct visibility, as well as to soften and evenly distribute the transmitted light.

**electric changeable message sign** – a misnomer for an ELECTRONIC MESSAGE CENTER.

**electric sign** – a sign that contains electrical fixtures or connections.

**electrode** – a terminal that conducts an electrical current between two conducting substances. Electrodes are found at both of the ends of a neon unit.

**electronic art** – digital data and artwork files (formerly called “camera-ready art”) used in production of signs and graphic elements. Shapes and text are converted to paths (outlines) and used in defining path of knife, laser, router, waterjet, etc.

**electronic message center** – a sign that utilizes computer-generated messages or other electric means of changing text. Changeable message displays/signs may use incandescent lamps, LEDs, LCDs, and other technologies.

**electronic message signs** – dynamic, changeable signs which may be any of the following: EMD SIGN, LED SIGN, LCD SIGNS, CRT SIGNS. See also *video wall, plasma screens, flat screens*.

**electrostatic film** – polyvinyl chloride (PVC) medium treated with a small charge of electricity, enabling the sheeting to temporarily, but firmly, adhere to glass and similar smooth substrates.

**ellipsis** – a mark or series of marks (. . .) used in writing or printing to indicate an omission, especially of letters or words. It can also indicate continuing thought.

**embedded fiberglass** – a common misnomer for FIBERGLASS EMBEDMENT.

**embellishments** – any addition to a sign face that provides a three-dimensional effect. Cut-outs, push-through shapes/letters, neon strips, and clocks are all examples of embellishments.

**embossing** – the process of producing raised letters, particularly those produced by engraving dies or plates.

**EMC** – See ELECTRONIC MESSAGE CENTER. Also called *electronic message signs*.

**EMD (electromagnetic device)** – magnetically controlled disks that flip on and off to create changeable messages and are controlled with digital technology. See also *electronic message signs*.

**emulsion** – a semiliquid material that dries hard and is used in preparing stencils for screen-printing.

**engine-turned** – descriptive term as applied to metal and gold leaf finishes. Appearance of material altered by spinning (turning) a series of uniform circles into the surface in rows. The rows then overlap in a symmetrical orderly manner to produce a unique finish. Most commonly seen applied to burnished, gold leaf, or stainless steel surfaces.

**engraving** – a method of marking metal, plastic, or glass in shallow, negative relief utilizing a bit or graver. Engraving may be done freehand, using a pantograph, or by computer-driven equipment. The engraved area may be filled to create greater contrast.

**entrance canopy** – a canopy or awning attached to the facade of a building to provide shelter and to define the building entrance. Often used as a vehicle for identifying building.

**environmental graphics** – the planning, design, and execution of graphic elements in the built and natural environment. Environmental graphics includes communication systems that identify, direct, inform, interpret, and visually enhance the environment.

**epoxy** – a common form of adhesive (glue) that produces a very strong adhesive bond between substrates. Epoxy comes in liquid or putty form and in two parts. The epoxy base is intermixed with a catalyst immediately before application. Once the two parts are mixed, working time is limited.

**erect** – to place a sign and sign support structure in its final location; install.

**etched and paint-filled** – etched (chemically) or incised (mechanically or by the abrasive method) and then filled with color to create a desired contrast and appearance.

**etching** – See ACID-ETCHING.

**extended** – a font in which the proportion of the letters, numbers, and symbols, has been altered by increasing their width.

**extender** – a substance added to an ink to improve its working quality or to extend the volume.

**exterior illumination** – illumination that is provided from a source separate from the sign itself, such as a spotlight.

**extruded acrylic** – See EXTRUSION.

**extrusion** – a part that's created by forcing a raw material (usually metal or plastic) through a die to create the desired shape. Often used to refer to the extruded aluminum members that make up the frames of awnings. PVC boards are also created through the extrusion process.

## f

**fabricate** – to manufacture a sign or major sign components from raw materials or parts. Common steps in fabrication process include but are not limited to cutting, welding, grinding, machining, riveting, bending, rolling, sanding, polishing, routing, waterjet cutting, laser cutting, taping, painting, etc.

**fabricated letter/numeral** – a dimensional letter that is usually fabricated from thin metal, joined, and soldered to appear solid.

**facade** – the front or principal entrance of a building.

**face** –See SIGN FACE.

**fascia-mounted sign** – a flat sign that is mounted on a wall and whose face runs parallel to the wall . A fascia-mounted sign might project from the wall on which it is mounted. See also *wall sign*.

**fasteners** – mechanical items, including nuts and bolts, that help hold a sign together.

**fiber-optic display** – a type of sign that transmits the message utilizing light directed through threadlike fibers of glass or plastic. The big advantage to fiber-optic displays is their ability to be shaped into fantastic images without defusing the light the fibers carry.

**fiber optics** – strands or bundles of light-transmitting fibers, usually plastic or glass, used in specialty lighting conditions for signage. The light source can be several feet away from the display, and the light can be emitted from the sides of the bundles or from the ends. It is easier to maintain (and uses less energy) than other methods used for similar application, as single light source can service long runs of fiber-optic tubing.

**fiberglass** – shorthand term referring to glass-fiber reinforced polyester. It can be used in sheet form to compose sign faces and cabinets or can be cast into custom forms, both projecting and in relief. May also be called *spun glass* when used in dimensional forms.

**fiberglass embedment** – subsurface signage usually used outdoor signage and maps composed of paper or other media, embedded in glass-fiber reinforced polyester resin. Also called *embedded fiberglass*.

**fiberglass-reinforced plastic (FRP)** – glass fibers are added to the heat-resistant polyester resin to form an FRP. It has durability, a clean surface after the forming and heat treatment, flexibility in size, light, heat resistance, and good insulation qualities.

**fillet weld** – a weld at the inside intersection of two metal surfaces that meet at right angles to one another.

**flag** – a piece of plastic or cloth, usually square or rectangular in shape and suspended by its top or one side. It may or may not be decorated; most often used as a temporary attention-getting device. See also *banner*.

**flammability** – the ability of a material to burn under certain conditions. Flammability becomes a concern with electric signs and some indoor displays and is usually subject to fire code control.

**flasher** – a mechanical device designed to interrupt the electrical current in a sign at regular intervals, turning the light source on and off to create a flashing image.

**flat screen** – usually a LCD screen used in electronic sign displays.

**flexible-face material** – translucent woven vinyl cloth that is decorated and then stretched across a frame to form awnings, billboards, and other types of signage.

**flipper** – a device used in some electronic changeable copy signs, installed in a disk, door, cube, or sphere. It opens and closes electromagnetically, displaying a colored or black surface. Flipper signs are often used as an alternative to incandescent bulb displays.

**flood stroke** – in screen-printing, inking the image areas of the screen between printing strokes.

**fluorescent** – taking in radiation and sending it back out as visible light. Refers to some specialty colors of paint and vinyl, and ink used in screen-printing.

**fluorescent lamp/tube** – a type of lamp in which the light is produced by the fluorescence of a phosphor coating in the tube. The coated tube is filled with a mix of argon gas and mercury. When electrical current passes between the electrodes, the gas mixture emits ultraviolet (UV) light. The UV light is absorbed by the phosphors, which then radiate the energy as visible light. A starter and ballast help regulate the current and voltage necessary to ionize the gases in the tube. Fluorescent lamps are more efficient than incandescent bulbs and are popular source of illumination for many signs.

**flush** – to set lines of copy so that they are aligned perpendicular at a right margin (flush right) or left margin (flush left). When the copy is flushed both right and left (full flush), we more commonly say it is *justified*.

**foam board** – a type of lightweight, rigid board used for interior signs. Foam board consists of a plastic foam sheet laminated on one or both sides by a variety of paper or plastic substrates.

**foam tape** – typically double-sided adhesive tape used for mounting sign plaques, letters, or other sign materials to vertical surfaces. Comes in black or white and in various thicknesses (1/32" to 1/8" thick) and widths (1/2" to 1" wide).

**focal point** – the area in a design or layout that first catches the eyes. In effective design, the main message the sign seeks to convey will often be located at the focal point

**font** – a specific style and group of letterforms consisting of one complete set of letters, numerals, symbols, and punctuation used for composing written communications in a given typeface. Typically provided in digital form (formerly available in hot metal and photographic composed typography). Fonts come in various weights (i.e., light, regular, bold and black weights). Many fonts also are provided in italic formats. Fonts can be condensed (made to look narrower) or extended (wider).

**footing** – the projecting base of a sign pole or pylon, including the portion that is buried in the ground. The footing bears all of the weight of the sign, keeping it straight and true while anchoring it against overturning moment. Normally engineered to withstand wind gusts of 90 miles per hour or more depending on geographic region. Also called *foundation*.

**format** – the workable space within which the art and copy must fit; the shape and area of a sign face. Also, format may describe the general make-up of a sign, such as: the format is a sandblasted wood sign with a push-through logo.

**formed** – refers to the plastic face or letter that has been heated and shaped to give it dimension.

**foundation** – See FOOTING.

**four-color process** – See PROCESS COLOR.

**frame** – in screen-printing, the wood or metal construction to which the mesh is attached.

**frangible sign mount** – a break-away sign mount, typically used on posts along roadways to break away on impact and cause less damage in accidents.

**freehand** – to draw by hand without the use of measurements or instruments.

**friction feed** – process where material is fed through a plotter by placing it between a motor-driven grit wheel and two tensioned pinch rollers.

**frisket** – an adhesive masking of paper or plastic used for (stencil-like methods of) painting, sandblasting, silkscreening, and other processes. Friskets may be hand-cut or digitally cut.

**FRP** – See FIBERGLASS-REINFORCED PLASTIC.

## g

**galvanizing** – the process by which steel or iron is protected by a zinc coating or plating, achieved by hot-dipping the metal into molten zinc or by electrolysis. The galvanized coating protects the underlying metal for between 15 and 30 years, but requires a special primer before coating.

**gateway sign** – typically a sign at the entry to a neighborhood or large facility, graciously announcing the entrance to a grand destination. Also called *precinct sign*.

**gauge** – a measure of the thickness of sheet metal. In the sign industry, most sheet metal ranges from 10 to 26 gauge.

**GFRC** – See GLASS-FIBER REINFORCED CONCRETE.

**gilding** – considered by many to be the highest form of sign art, gilding is the application of thin metal sheets to glass, signs, and vehicles. After the work surface is clean and the design is marked out, a gelatin sizing is brushed on the area to be gilded. The gold leaf is lightly applied to the work site using a gilder’s tip and static electricity. After the entire area is dry, the gold leaf is burnished and holes and imperfections in the gild are filled. The final step, if the gild is reversed on a window, is painting the backs of the letters (and an outline) or outlining them if it is a direct gild. On outdoor application, a protective clear coat is sometimes applied when the gilding is on incised stone.

**glass-fiber reinforced concrete (GFRC)** – concrete with an integral strengthening admixture of short alkali-resistant glass fibers.

**glass signs** – painting, carving, sandblasting and/or etching are the most popular ways to decorate glass for signage.

**glaze** – a ceramic coating matured to a glassy state on a formed ceramic article such as tile. This is achieved through application of intense heat in a kiln. The term also refers to the material or mixture from which the coating is derived.

**glazing** – **1.** the act or process of furnishing or fitting with glass. **2.** a transparent or translucent color applied to modify the effect of a painted surface.

**gloss** – the shine on a smooth surface, such as paint or vinyl. Varying degrees of gloss are high gloss (also called “mirror finish”), semigloss, eggshell, satin, matte, etc

**glossimeter** – a device used to measure the reflective degree of a surface, from specular (mirror finish) to matte (dull, nonreflecting).

**gold leaf** – gold manufactured into thin leaves; the gold used in gilding. Gold leaf comes between sheets of tissue, with each leaf 3 3/8” square. The leaves are packaged in books of 25, and a cardboard box of 20 books is sold as a pack. Gold leaf comes in a range of colors and karats, with 14 to 18 karat for use on interior applications such as glass. The best gold leaf, 23 karat, is reserved for exterior work on vehicles, signs, and architectural applications.

**goose neck** – the curved support for a light fixture normally constructed out of steel conduit. It is used on billboard and storefront signs as a traditional solution.

**gradation / gradient** – steps of transition between two colors or between black and white, created by mixing percentages of a dominant and secondary .

**grade** – the contour of the ground surface, whether in its natural state or after development. The placement of the signs is often measured as height above grade.

**Grade 2 Braille** – Grade 2 Braille is similar to Grade 1 Braille, but it includes additional characters and character combinations representing contractions of certain words and word components such as “the” and “ation.” Considerable care must be taken to translate grade 2 Braille correctly, using a computer-based or other translation program, and it must be proofread by a Braille proofreader to approve all final artwork.

**grid tubes** – neon tubes laid out in regularly spaced parallel or concentric lines for lighting translucent signs or channel letters.

**grit wheel** – the motor-driven roller that moves material through a friction-feed plotter. The grit feed wheel is usually machined to roughen its surface and provide a better grip on the material; some are still coated with a coarse, fine-grit material to provide traction, hence the name.

**grommet** – a reinforced metal eyelet found in banners used to receive cords or other fasteners.

**ground sign** – a freestanding sign that is mounted on poles or braces, with no secondary support.

## h

**halation** – a spreading or reflection of light, a halolike effect that occurs in reverse reading letters, where the background is significantly darker than the illuminated letters.

**halftone** – the process of converting images into a regular array of dots of various sizes with equal spacing between centers. Also the process of reproducing an image as a series of dots of various sizes within a fixed grid.

**halo** – a ring of light, the effect achieved by reverse channel letters, which appear to be ringed by light because the light source is reflecting on the background from which the letters are pinned out.

**halo lighting** – typically used for back-lit letters (reverse-pan channel letters) to create a glow of light around the letter by illuminating the wall surface from within the letterform.

**hand-cut** – a method for making a screen-printing stencil where a knife is used to manually cut a design into a film temporarily affixed to a support sheet.

**handicapped** – this word is no longer used and is considered offensive. See DISABLED ACCESS.

**hanging sign** – a double-face sign that hangs from a bracket or support and projects from a wall, building, or pole. See also *projecting sign*.

**header** – a separate board above the rest of a sign that gives it a headline or contains a different advertising message for the same product. Most often seen in point-of-purchase advertising.

**heat-activated** – a type of adhesive that isn’t sticky at room temperature but undergoes a chemical transformation when heated.

**heat-bending** – the process of heating any thermoform plastic, such as PVC boards, acrylics, laminates, etc., and then bending them to desired shapes.

**height** – the vertical distance from the grade to the highest point of the sign face. Sign codes often limit allowable height of signs.

**height above grade** – See CLEARANCE.

**high-pressure laminates** – papers impregnated with thermosetting melamine and phenolic resins bonded at high temperatures (some well-known brands are Formica, WilsonArt, and Nevamar, for example) which are available in sheet sizes up to 48” x 144” x 1/16” and come in dozens of standard colors and patterns. Now available with custom digital artwork embedment suitable for outdoor use as well.

**hinged side** – the face on a double-face sign that swings open for service.

**hinging** – a vinyl installation process where a cut vinyl image, the carrier liner, and the transfer tape are placed on the target surface; a piece of masking tape is then attached to the top edge of the transfer tape. The liner is then slowly rolled off from the top edge and then the transfer tape (and vinyl image) are slowly smoothed onto the surface. A variation of this is to leave an exposed strip of transfer tape above the top edge of the liner, instead of separate piece of masking tape, to act as a hinge.

**histogram** – a graphic display that represents the distribution of tones within an image.

**housing** – made from porcelain or Pyrex glass, a housing is mounted in the sign and provides the contact between the electrode and the lead-in wire.

**hue** – a particular variety of a color, such as a tint or shade. One of the components of color that can be specified by particular wavelengths.

**hydrocutting** – See WATERJET CUTTING.

## **i**

**identification sign** – a sign giving the name of the business for purposes of identification.

**illuminated sign** – a sign which is lighted by either an internal electrical source or external flood lights.

**incidental sign** – signs, usually smaller in size and of a noncommercial nature, that appear in almost every location the public might be found. Examples of incidental signs include hours of operation, location of rest rooms, and entrance and exit signs.

**incised** – decorated by cutting into or indenting the surface of a material. Incised letters are carved or engraved into surface of stone, wood, plastic, or sandblasted into glass or stone.

**inflatable** – plastic or fabric signage that assumes a three-dimensional shape when filled with air under pressure or with helium gas. A temporary sign that is often seen as part of a special promotion.

**ink** – the mixture of colored pigments in a suitable liquid used for screen-printing or digital printing. Inks are typically either water-based or solvent-based, and their selection is based primarily on the substrate to be printed. They form a solid surface after either curing or drying.

**ink-receptive** – describes a substrate that can be made wet by ink when printed and that will bond with the ink after drying or curing.

**inscribe** – to write, print, carve, or engrave (words or letters) on or in a surface. To mark or engrave (a surface) with words or letters.

**insert** – See BLANK.

**international symbol of accessibility (ISA)** – the international symbol of accessibility is used primarily to communicate wheelchair-accessible routes and entrances.

**interactive** – of or relating to a two-way electronic or communications system in which response is direct and continual. Interactive displays incorporate a touch screen, buttons or switches, or a keyboard to generate a signal that activates an information display. Also used to describe nontechnical activity, as when an exhibit user's action is rewarded with a reaction from the exhibit.

**internally illuminated** – a sign that is lighted through the use of internal electric fixtures or lamp banks. See also *back-lighted sign*.

**interpretive sign or kiosk** – A sign that provides permanent cultural or historic information in addition to building or site identification.

**ISA** – See INTERNATIONAL SYMBOL OF ACCESSIBILITY.

**ISTEA** – Intermodal Surface Transportation Efficiency Act. An act of the Federal Highway Administration granting funds to state transportation authorities for new highway and road development. Part of ISTEA money is set aside for multi-modal transportation and signage. ALSO SEE TEA-21.

## j

**jaggies** – an informal term for the visual stair-stepping edges that occur in an image when the image resolution is too low. See also *bitmapped*.

**J-bolt** – an angled rod, usually steel, embedded in a concrete footing, or anchor, and threaded at the exposed top end for attachment to a freestanding sign.

**job site sign** – See CONSTRUCTION SITE SIGN.

**JPEG (joint photographic exports group)** – a graphics file format designed for use with photographs and other color bitmap files. The JPEG format uses a mathematical technique to create files that are smaller than those created using other file formats, while maintaining a readable image.

**justified** – describes copy that is set with even margins on the left and right (achieved by irregular word and letter spacing). See also *flush*.

## k

**kerf** – the cut made by a saw or blade.

**kerning** – the process of moving pairs of letters farther apart or closer together to make them appear more evenly spaced. Most layout software offers an automatic kerning feature which greatly reduces the need for manual kerning. See also *letterspacing*.

**kick plate** – a metal or plastic plate or strip that runs along the bottom edge of a sign structure or kiosk to protect against marring of the finished surface by kicking or cleaning equipment

**kiosk** – traditionally a small structure used for posting temporary signs and notices. A freestanding structure onto (and into) which messages and pertinent information can be housed

and displayed. Many kiosks have interactive elements such as touch screen monitors. May be portable or permanent.

**knife bevel** – the angle of the vertical cutting edge of a blade. The angle is increased to aid knife travel through thicker material that produces more friction between the blade and medium.

# 1

**lacquer** – a clear finishing material similar to varnish and preferred by sign makers because of its abilities to dry quickly and to not be affected by the presence of dust. It may also be used as a binder with pigments such as silver dust.

**laminated glass** – a glazing material consisting of outer layers of glass laminated to (and held together by), and encasing, an inner layer of transparent polycarbonate film. In graphics and architecture, patterns and images can be applied to the plastic interlayer to create desired design effect.

**lamination** – a process by which different materials are lacquered and then bonded together. The end result may be the creation of a substrate, such as medium-density overlay (MDO), or protection of the underlying surface, as when a clear plastic film is laminated to a decorated surface.

**lamp bank** – the part of a message center that the public sees; a regular array of small lamps which display messages by their on and off patterns.

**lap joint** – a connection in which two pieces of material are overlapped before fastening.

**lateral force** – a force acting in a horizontal direction, such as wind, earthquake, or soil pressure against a sign face, foundation wall, or footing.

**layout** – the total arrangement of a sign's graphics. Shows the overall plan of how the art copy will be arranged on the face.

**leading** – typographic term from the long-gone days of cold lead typesetting, where thin lines of lead were placed between lines for to provide spacing within a paragraph. In contemporary nomenclature, leading refers to LINE SPACING.

**LCD (liquid crystal display) sign** – a type of changeable copy sign utilizing liquid crystals that become opaque or clear when exposed to a controlled voltage. Although LCDs are most common in calculators and digital watches, they are also used in some time and temperature displays.

**LED (light emitting diode) sign** – consists of a small light source that emits colored light (usually red, but also green, yellow, blue and white) from a very small amount of electricity and is used for electronic "message" signs. These signs became popular in the 1970s because they were inexpensive and allowed scrolling/changing messages to be used in commercial applications. Advances in LED technology have made them more useful for interior and exterior message displays. See also *electronic message signs*.

**legibility** – the quality of a sign's typefaces that allows it to be easily read and deciphered. See also *readability*.

**letterspacing** – the addition of space between individual characters or numerals. See also *tracking*

**letter styles** – serif, sans serif, slab serif, italic, light, roman, medium, demi-bold, bold, extra bold. See also *font*.

**letter visibility chart** – an established set of numbers representing approximate visibility of letters over a range of distances. Ranges from a 3” letter which has a maximum impact readable distance of 30’ and a maximum readable distance of 60’ to a 60” letter which has a maximum impact readable distance of 600’ and a maximum readable distance of 2500’. Readable distances vary with various color combinations and type faces as well as with surrounding visual busyness, and whether the observer is still or in motion.

**Lexan** – a trade name for polycarbonate plastic sheeting.

**life safety signs** – used for police, fire, security, evacuation, and other life safety information, subject to local code enforcement and review.

**light-emitting diode (LED) sign** – See LED SIGN.

**light reflectance value (LRV)** – the amount of light reflected by a given color. For instance, yellow has a higher light reflectance value than purple does.

**line screen** – used to define the density of a screened or halftone image. That is, a 133-line screen contains a pattern with 133 halftone dots per linear inch. The higher the number, the higher the resolution, and in turn the higher quality of detail in reproduction of original artwork.

**line spacing** – typographic term used to describe distance from letter baseline to letter baseline in blocks of text. Also called *leading*.

**lines** – in lamp arrays, vertically stacked lamp banks creating a single line of copy. A line is typically seven or nine lamps in height.

**liquid crystal display (LCD) sign** – See LCD SIGN.

**logo** – an often stylized group of letters, words, symbols, or shapes used to represent a business or product. The use of a company’s logo can be regulated by the federal government once it is registered. See also *trademark*.

**LRV** – See LIGHT REFLECTANCE VALUE.

**lumen** – a unit of measurement of light.

**luminescence** – the quality of given off light by the absorption of radiant energy. Used to describe any cold light. See also *fluorescent*.

**luminous tubing** – See NEON TUBING.

## m

**magnesium plate (mag plate)** – composite metal sign material which can be acid-etched with fine detail for use in interior and exterior signs. Good for exterior-grade A.D.A. signs and more durable than photopolymer. Lighter weight and less expensive alternative to cast bronze or aluminum plaques. Because it is somewhat porous, it should be primed and painted rather than used as raw metal finish.

**magnetic sheeting** – magnetized sheet material laminated to a flexible plastic sheet and available in rolls. Cut to size and decorated, magnetic sheeting works well for temporary signs applied to magnetic metal surfaces.

**malleable metal** – any metal that can be hammered or bent into desired shape with minimal chance of breaking or cracking.

**manifold** – a part of the neon pumping system; the manifold is a system of vacuum-tight tubing arranged so that one or more tubes can be attached to it, evacuated with a vacuum system, and filled with rare gases.

**maquette** – French word for “MOCK-UP” or “model.”

**mark** – See LOGO, TRADEMARK.

**marquee** – **1.** the portion of a canopy, sign, or architectural element protruding from a building face that projects over the public street or sidewalk. Can be lighted, used for advertising of events, and is typically used by theaters.. **2.** a projecting structure permanently attached to, but not a part of the roof. Also known as a *canopy*. **3.** in computer graphics, the process of using a mouse-driven cursor to draw a rectangle around an on-screen object, therefore selecting it for further work. Also called “highlighting” in some software.

**masking** – in painting or screen-printing, the process of covering areas, usually with tape or paper, to protect them from receiving subsequent layers of paint or ink.

**Masonite** – a brand of hard substrate made from wood chips that have been pressed into boards.

**matrix** – a regular array of lighting units in the display area of an electronic changeable message sign. See also *electronic message center*.

**matte / matte finish** – having a dull surface; not shiny or reflective.

**maximum yield** – in production, the amount of material utilized versus what is wasted or dropped. To achieve maximum yield, objects, letters, etc. are nested manually or via computer to allow the smallest amount of waste in a sheet of material. Also used in reference to organizing cuts on lengths of stock (e.g., bar stock, tube, rod, etc.) to minimize wasted material. See also *nesting, yield*.

**MBE** – Minority Business Enterprise.

**MDO** – See MEDIUM-DENSITY OVERLAY.

**medex®** – a chemically treated, exterior-grade particle board used in sign manufacturing as a substrate.

**medium-density overlay (MDO)** – a type of plywood considered an ideal base for paint ad recommended for signs. MDO is exterior-grade plywood with a smooth impregnated paper veneer on both sides.

**memorial sign** – a building sign or plaque noting such information as the name of the building or structure, when it was built, and by whom.

**menu board** – a changeable point-of-purchase advertising display that allows the retailer to list products and prices.

**mercury** – a heavy, silver-white metallic element liquid at room temperature. When heated to a vapor through which an electronic current is discharged, it produces a bluish-green light. It may be mixed with rare gases, typically argon, to produce the ultraviolet light necessary to excite the phosphors in neon tubes and in florescent lamps.

**mesh** – in screen-printing, the material stretched across the frame. Also referred to as the *fabric*.

**message center** – any sign that displays changeable copy through electronic or mechanical means.

**message controller** – in an electronic sign, the device that stores messages entered by the operator and conveys them to the display area of the sign in the proper order using electrical impulses.

**message schedule** – a list of sign types programmed for a given facility which provides sign type, location reference, and message.

**metal finishes** – sign finishes vary greatly between silver metals and yellow metals. Typically both include polished, brushed, satin, matte, painted, anodized, antique, oxidized, galvanized, chrome-plated, nickel-plated, engine-turned, and many others. Metals typically come in a mill finish (as fabricated by the manufacturer). There are many levels of finishes that relate to gloss and reflectance including matte, satin, nondirectional, abraded, brushed, and mirror finish.

**metals** – metals used in signmaking include: aluminum, brass, bronze, cast iron, copper, gold, iridium, lead, magnesium, mild steel, muntz metal, nickel, pewter, platinum, silver, stainless steel, tin, titanium, weathering steel, zinc.

**micrometer** – a finely tuned measuring device used to determine thickness, or gauge, of thin objects.

**mild steel** – steel containing less than three-tenths of one percent (0.003) carbon. Not used in structural applications due to its relatively low strength.

**mirror** – **1.** function of reversing type or an image in design. Used mainly for cutting copy or images to be installed on the inside surface of a transparent substrate such as a window. **2.** highly polished, virtually specular finish on surface or material.

**mock-up** – typically a full-size model used to test scale, color, appearance, legibility and/or aesthetic aspects. Usually made of materials that simulate final construction materials and finishes. Also called *maquette*.

**model** – typically a smaller-scale, proportionally reduced version of a larger architectural element.

**moiré** – an interference pattern created by the overlay of two regular patterns. In screen-printing, the undesirable pattern on halftones caused by incorrect screen angles.

**molding** – a trim, commonly of wood or metal, available in many shapes and profiles, used as detail on many different types of signs. The metal or wood that frames a billboard.

**moment connection** – a connection between two structural members that is highly resistant to rotation between the members, as differentiated from a pin connection which allows rotation

**monolith** – a body of stone, plain or reinforced concrete, cast or erected as a single integral mass or structure.

**monument sign** – a freestanding sign sitting directly on the ground or mounted on a low base. Usually identifies facility, building, or entrance.

**mosaic** – tile with a series of small inlaid pieces of porcelain or natural clay materials that form decorative patterns, images, or words.

**mottled** – **1.** marked or patterned with irregular patches of color. **2.** describing a surface finish that is rough or uneven.

**MSDS** – material safety data sheet, provided by the manufacturer.

**multicolor printing** – any screen-printing job involving the application of more than one color of ink.

**Muntz metal** – an alloy of copper (55 to 61 percent) and zinc (39 to 45 percent) with up to 1 percent lead. This brass is highly malleable and is used for sign plaques and letters.

**mural** – wall surface that has been treated with a paint, tile, or vinyl graphic pattern, image, or shape. Historically murals have been either hand-painted or mosaics. Now murals can be achieved using large-format digital prints that can emulate any material or finish desired.

**M.U.T.C.D.** – Manual on Uniform Traffic Control Devices, available from the US Dept of Transportation. It defines highway sign standards and traffic control graphics.

## n

**name plate** – a sign that identifies only the name, occupation, and/or professional title of the occupant of a desk, office, or building. A building name plate might also have the name of the building and other directional information.

**national electric code (NEC)** – electrical safety code adopted by many (but not all) states, counties, and cities in the United States.

### **NCARB – National Council of Architectural Review Boards**

**negative space** – the background of a sign. The area around and within the art and copy. Also called *white space*. See also *positive space*.

**NEC** – See NATIONAL ELECTRIC CODE.

**neon tubing** – glass tubing filled with various gases and charged with electricity creating an illuminated tubular sign or decorative elements. Neon itself is a rare inert gas which, when an electric current is discharged through it, produces a reddish-orange glow. Other gases such as argon and mercury can be used, and will produce other colors. This term is also often used to describe a type of luminous tube sign, which may contain other inert gases. The coating and color of the glass tubing will also dictate the color of the illuminated tube. Also called *luminous tubing*.

**neoprene** – a type of synthetic rubber with outstanding oil resistance. It is used with quick-setting, high-strength adhesives as a cushioning, gasketing, and weatherproofing material.

**nesting** – placement of images or letters in an arrangement to minimize waste of material when cutting. Used mainly in cutting or routing individual letter image backs in metal for channel letters and other electric signs; also seen in vinyl-production software to assemble elements of same color. See also *maximum yield*.

**network** – a group of computers that are connected with cables and software for constant, on-demand communication. With a network, several computers can use or control software installed on a central computer, or server, dedicated to one or a few functions.

**nickel plate** – a thin layer of nickel that has been electroplated onto another metal, or the metal so plated. See also *metal finishes*.

**node** – See CONTROL POINT.

**notched** – channel letters that are cut out at the back to fit over a raceway are said to be notched.

## O

**off-contact** – a way of screen-printing in which the screen is raised at least 1/8 ” above the substrate. It is the preferred method for printing nonabsorbent substrates.

**off-premise sign** – a sign that is not located on the building or property of the business it advertises. The most common example of an off-premise sign is a billboard.

**ogee** – in computer graphics, a distortion of an image using an S-shaped curve as one baseline, giving an image a wavy look.

**oil-canning** – typically used to refer to a metal surface that shows uneven deflection from unsuitable inner structure, poor attachment, or insufficient thickness of face material.

**opaque** – not clear or translucent; not allowing light to show through.

**open channel letter** – a channel letter with returns that project forward perpendicularly from face of letter, and in which the neon tubing is visible.

**origin** – the point marking the zero coordinate on the *x*-, *y*-, and *z*-axis. Used as a starting reference by plotters and routers for knife and tool paths.

**ortho** – zero degrees horizontal; a command included in several sign-design software to set an image to a “perfect ” horizontal level.

**O.S.H.A.** – Occupational Safety and Health Administration. Government division responsible for monitoring and enforcement of laws pertaining to workplace safety.

**outgas** – the tendency of a solid or liquid elements in a plastic or composite material (such as particle board) to vaporize over time. Outgassing can occur in some plastics and paints if they have not finished drying, resulting in adhesive failure to anything applied over them. Outgassing also describes the release of impurities in vacuum systems such as neon tubes during processing.

**outline/inline** – in computer graphics, a closed-loop path that copies an original’s shape, but is offset by the positive measurement outside the original (outline), or a negative measurement inside the original (inline).

**overlap** – amount of material either cut or printed in the one panel or tile that duplicates what is done in the previous panel or tile. The overlapping image allows for alignment when assembling and installing a large image.

## P

**page** – the production area of a plotter or printer. Most plotters have a limit of page size along the *y*-axis (usually a few inches less than the width of the material) and the *x*-axis (although most allow 1,000” or more). See also *panel*.

**paint** – a liquid coating made up of a pigment suspended in a vehicle or binder. Common paint vehicles include resins dissolved in solvents or water. Paint may be brushed, sprayed, or rolled onto a substrate. It dries to a hard film that bonds the pigment to the surface.

**paint finish** – in descending order of reflectance: gloss, semigloss, 20 percent gloss (preferred by the A.D.A.), eggshell, and matte (“dead flat finish”).

**panel** – a section of artwork based on the production area of a device, such as a plotter or printer. If the artwork size exceeds the production area, different panels are set up by the sign software, and can be produced by selecting individual panels. See also *tiling*.

**panelboard** – in a building, the center of the electrical distribution system.

**Pantone Matching System® (PMS)** – standardized series of thousands of colors, each with specific color formulations as identification number. PMS colors are duplicated in swatch books and in computer-graphics programs to allow exact duplication of colors in color printing and other marking or painting processes, such as signmaking.

**parallel communications** – a method of sending information from a computer to another device (such as a plotter or printer) by sending multiple signals at once through a cable. Faster than serial communications, but a computer may not be able to sense errors in the device receiving the information. Available with all IBM-type computers and some plotters/printers.

**patina** – a finish applied (or achieved by age) to metal surfaces (especially copper, brasses, and bronze). May include statuary bronze (classic brown color), verdigris (green-gray), and various other colorized finishes.

**pattern** – a full-sized layout of a design. May refer to the design into which neon tubes will be bent, the configuration of vertical sides of channel letters to be constructed, or for painting. See also *pounce pattern*.

**pavement graphics** – typically white or yellow graphics applied to asphalt or concrete roadways and parking areas to supplement traffic markings.

**pegged out** – See PINNED OUT.

**pennant** – a piece of plastic or cloth, pointed at the bottom and suspended by its top. Often undecorated, it is a temporary attention-getting device.

**perforating wheel** – a toothed wheel on a handle that allows it to rotate freely. After a full-sized pattern is created, the perforating wheel is used to trace its line, creating perforations that can be brushed with dust or powder, creating an outline on the surface to be painted. Also called a *pounce wheel*. See also *pounce pattern*.

**permit** – a license granted by the appropriate authorities to allow a sign to be erected.

**phosphors** – chemical powders used to coat fluorescent tubes. They become excited when subjected to the ultraviolet light produced by the discharge in a luminous tube. A range of phosphors is available and is capable of producing a large variety of colors and whites.

**photo-cut** – a method of vectoring an image in a parallel-line pattern to give a rough, but recognizable, rendering of sharp outlines from a high-contrast or medium-contrast photograph.

**photopolymer** – a specialized plastic with photosensitive coating which is masked and photoetched to create tactile graphics. Used primarily for A.D.A. signage requiring tactile copy and Braille.

**photo simulation** – typically a digital photo illustration showing a proposed concept. It is used to show new graphic elements in context. Two-dimensional or three-dimensional drawn objects are placed into a photoshop document of the existing situation. A type of digital rendering. See also *rendering*.

**photo stencil** – a stencil prepared using photographic methods, rather than mechanical devices or cutting by hand.

**pictogram** – a pictorial representation or graphic symbol. Pictograms are commonly found in environmental graphics (restrooms and directionals) and regulatory (traffic) signs. Pictograms, including the recognizable ISA, are useful to bridge language barriers, as in airports. See also *D.O.T. symbols*.

**pigment** – a compound used to color other materials, such as paints and inks. Pigments are insoluble (unlike dyes), finely ground particles and may be organic or inorganic.

**pinch roller** – a wheeled holder, usually tensioned by springs, that clamps vinyl or other materials between it and a grit wheel for transporting the material through a friction-feed plotter. Plotters use two pinch rollers, with one or both movable along the y-axis to accommodate materials of different widths.

**pinholes** – tiny, unsealed spots in the nonprinting areas of a screen, which allow ink to flow onto areas that aren't supposed to be printed.

**pinned out** – describing letters mounted so they are separated from the surface to which they are attached. Pinning out is an important part of affixing reverse channel letters, but metal, plastic, or wood letters may also be pinned out to prevent stains from washing down the letters or for visual impact. Also called *pegged out*.

**plasma screen** – a type of flat-screen digital image display screen which is uniformly flat and less than five inches deep.

**plastic** – a generic term for a wide range of synthetic materials which consist of a long chains of polymers that are moldable and soften when heated. Many plastics used in the sign industry are of the thermoplastic variety, which means they can melt and solidify repeatedly.

**plastic-faced letters** – Channel letters in which the front of the channel is covered by a translucent plastic face, diffusing the neon lighting within.

**Plexiglas** – the trade name for a brand of acrylic sheeting, which (like Kleenex ) is often mistakenly used as a generic term.

**plot plan** – A drawing or sketch showing the layout looking down on the site on which a sign is to be erected. A plot plan will commonly show such things as the sign's relationship to buildings, parking, pedestrian ways, etc. It is sometimes required to obtain a permit.

**plotter** – a computer-controlled printer or cutter.

**PMS colors** – See PANTONE MATCHING SYSTEM®.

**point-of-purchase signs/advertising** – in-store advertising designed to stimulate impulse purchases by shoppers inside a store. The term applies to a store's internal sign system, as well as special displays and dispensers created by and for specific product manufacturers. Also known as "point-of-sale advertising."

**pole sign** – a freestanding sign, usually double-faced, mounted on a round pole, square tube, or other fabricated member without any type of secondary support.

**polling** – a method where a computer sends a signal to a plotter or printer requesting information on the current production area. The device sends back an answer on production parameters; the production software then sets panels, or tiles, based on the information. Works only with serial communications.

**polycarbonate** – a specific thermosetting resin characterized by its durability, flexibility, machinery, and endurance under UV exposure. Lexan is a polycarbonate. See also *acrylic*.

**polypropylene** – a type of plastic sheet used in banners, noted for its flexibility at low temperatures and its resistance to chemicals.

**polyurethane** – a type of hard thermoset plastic foam used in sign production. It has the density and characteristics of wood, but only one-third of the weight. It can be used for carving and sandblasting signs much like wood.

**polyvinyl chloride (PVC)** – a specific thermoset plastic which is weather and chemical resistant, available extruded into many forms or cast as sheets in a variety of colors and thicknesses . (It is also used for drainage and plumbing piping).

**porcelain enamel / porcelain sign** – a traditional process to coat metal with a ceramic slip which is fired at extremely high heat to create a durable, glasslike surface that is impervious to the environment.

**portable sign** – a freestanding, on-premise sign, not designed to be permanently affixed in place.

**positive space** – the copy and art on a sign face. The opposite of negative space.

**post and panel sign** – a sign panel with one or more posts.

**poster** – **1.** a series of paper sheets printed for use on a billboard. Other substrates used for poster include plastic and cloth. **2.** also, a sign typically printed on paper and intended for indoor use. Other substrates used for poster include plastic and cloth.

**Postscript (PS)** – a graphics software that is also used for proportional scaling of images. It is what makes most scalable type and artwork possible for Windows- and Macintosh-based graphics software.

**pounce pattern** – a full-sized pattern of any design to be painted. Once the pattern is created, the outline is perforated using a manual or computer-driven perforation wheel. The pattern is then held firmly against the substrate and the perforations patted with powder, charcoal, or colored chalk dust, leaving an outline of the design. This ancient technique was used by Michaelangelo to transfer images to the ceiling of the Sistine Chapel and is still in use today.

**pounce wheel** – See PERFORATING WHEEL.

**poured in place** – refers to concrete footings for signs. Wet concrete is delivered or mixed on site and poured into a form, creating desired shape. Normal curing and finishing techniques are applied as necessary. Alternative to pre-cast concrete, which is formed, poured, cured and finished off site, then brought to site and installed.

**powder coating** – **A specific process for applying paint to a surface that creates a very durable protective surface.**

**PPI (pixels per inch)** – the number of pixels in a raster image that will occur in one line in the span of one inch. The higher the PPI, the greater the resolution and the less distinguishable each pixel becomes.

**precast concrete** – steel- or glass-fiber reinforced concrete cast in a mold.

**precinct sign** – See GATEWAY SIGN.

**pressure-sensitive** – an adhesive that reacts when pressure is applied to the surface it is between. Sometimes used to refer to vinyl with a pressure-sensitive adhesive.

**primary colors** – the three colors from which all other colors can be created. In paint pigments, the primary colors are yellow, red, and blue. In four-color process printing, all colors are mixed from yellow, magenta (red), and cyan (blue). In light, the primary colors are red, green, and blue. See also *RGB display, additive colors*.

**prime** – to coat a substrate prior to the application of paint or adhesive. A primer coat prevents subsequent coats of paint or adhesive from being absorbed. The process is intended to improve the performance and life of the product.

**print stroke** – a pass of the squeegee across the screen in screen-printing. This forces the ink through the stencil onto the substrate.

**process color** – the three primary colors of printing – yellow, magenta, and cyan – plus black.. When printed as halftones in that order, they create a full range of natural colors. Also called *four-color process*.

**projecting sign** – a sign that is attached to a building but extends beyond the building structure. Regulators often set a predetermined distance that a sign must extend beyond a building for it to be considered a projecting sign. A decorated awning is an example of a projecting sign. See also *blade sign*.

**prototype** – usually a full-sized sample that uses final materials, methods of construction, fasteners, and finishes to test assembly, design, construction, and appearance issues. Also used approve the "first sample" in a long production run.

**pumping system** – in neon tube production, the pumping system is used to remove impurities from the tubes and fill them with rare gases. A pumping system typically consists of a manifold, vacuum pumps, rare gases, a bombardier, and electrical controllers.

**push-through** – a letter or graphic which is cut out, then pushed through a corresponding space that has been removed from the sign substrate. The push-through is typically different color and/or material than the rest of the sign. Typically used with an opaque sign cabinet and internal lighting. "Push-thru letters" are most often translucent acrylic letters that are pushed through a sign face panel to be flush or over-flush with the front surface of the sign face.

**PVC** – See POLYVINYL CHLORIDE.

**pylon** – a freestanding sign that is not a pole or ground sign.

## q

**quadratone** – a printing process that uses varying concentrations of black ink instead of different colors such as CMYK (four-color process). The result is heightened midtone and shadow appearance in black and white images.

**quarry tile** – a large clay floor tile, usually unglazed.

**quarter round** – wood or metal molding and trim which in profile is the equivalent of a quarter circle.

**queue** – an electronic holding area, usually in random access memory (RAM) or on a hard drive, where data is pooled and waits before being released sequentially for output.

## r

**raceway** – a metal structure enclosing the electric components of a sign, exclusive of the transformer.

**rain lap** – a method for applying printed paper or vinyl sheets by starting at the bottom of the area to be covered and working upward. As each strip is applied, it overlaps the one below it, preventing rain from getting into the seam and weakening the bond with the substrate.

**random access memory (RAM)** – computer memory available to the user for creating, loading, or running programs and for the temporary storage and manipulation of data, with rapid access.

**raster image processing** – See RIP.

**readability** – the quality of a sign’s overall design that allows the viewer to correctly interpret the information presented on it. Also, the optimum time and distance in which this can be done. Letter size and style, legibility of typeface, color contrast between letters and background, and a sign’s layout all contribute to readability.

**reclaiming** – removing a screen-printing stencil from a screen mesh so it can be used again.

**reflective sheeting** – film with very small glass or glasslike bead materials encapsulated below its surface, creating the ability to bounce light beams back to their source, such as from a car headlight back to the driver. The amount of light reflected, along with the angle of vision for which the reflective property is effective, is rated in different grades, such as promotional, engineer, and highway.

**reflectorized sign** – a sign that has been coated with a highly reflective material. See also *reflective sheeting*.

**registration** – **1.** in screen-printing, the correct placement of the image to be printed on the substrate. **2.** in multicolor printing, registration also refers to the correct alignment of the colors with one another.

**regulatory signs** – signs installed by various government bodies to inform the public with of traffic laws and other regulations.

**relief** – the projection of art from a flat surface. The shortened form of “bas-relief.”

**remote control** – a method for changing the message on electronic changeable copy signs, whereby the data is provided to the control console by telephone.

**rendering** – an artistic sketch or representation of a design concept.

**resin transfer** – a method of heating a colored resin material and printing it onto vinyl. The resin is sublimed, or momentarily turned into a gas without passing through a liquid state. The gas seeps into the vinyl and then resolidifies, creating a permanent image.

**resolution** – **1.** in digital images, the number of pixels shown on a screen; the higher the number of pixels in a given space, (i.e., the greater the density of pixels), the more precise the pictured image. **2.** in plotting, the degree of accuracy with which a plotter will place a knife-head in relation to a theoretical, perfect location of a coordinate.

**retainer** – the projecting rim around the sign face that holds it in place.

**retarder / retardant** – an additive that slows the drying time of ink.

**reverse channel letter** – a channel letter that has a face and sides but no back, and is pinned out from a background surface. When the neon tube inside the letter is illuminated, it produces a halo effect around the letter.

**revolving sign** – a sign that has the ability to turn 360 degrees because of the presence of an electric motor to drive its movable parts. All or a portion of the sign may revolve at a steady or variable speed.

**RGB display/sign** – stands for red-green-blue. Any high-quality electronic screen display that makes use of the three primary colors to produce a full-color display.

**RIP (raster image processing)** – software or hardware used to convert data to specific information needed by a printer or other digital output device to produce finished output. Action referred to as “RIPping” the file.

**roof sign** – a sign structure that is erected on or above a roof, or that is installed directly on a roof’s surface.

**router-cut sign** – describing a sign cut with a hand router or by a computerized router, using various shaped cutting blades (in a variety of sign materials).

**routing** – elimination of material in a substrate, using a tool bit that has been machined for this purpose. In computerized signmaking, using a CAD/CAM machine, a tool is programmed to eliminate material along a tool path created along *x*-, *y*-, and *z*-axes.

## S

**sandblasting** – a method for decorating glass or wood. A rubberized stencil of the artwork is either hand- or computer-cut and applied to the substrate, which is then sprayed with a pressurized stream of sand or synthetic particles to texture the unprotected area. Once the desired depth has been achieved on the item being blasted, the stencil is removed, and if on wood, the surfaces may be painted.

**sans serif** – any typeface that lacks serifs. In most sans serif fonts, there is little differentiation between the width of strokes within the letter. Helvetica and Futura are familiar sans serif fonts.

**scanner** – an optical device that senses different levels of reflection of light and translates that information into numeric formulas that can be read by a computer and replicated on a screen or printed.

**schematic design / schematics** – a conceptual design developed at the beginning of a project which demonstrates a design approach or strategy.

**scoring** – cutting or notching a material prior to bending it. Sufficient scoring of some substrates – glass and some thicknesses of PVC boards, for example – will also allow them to be broken cleanly without cutting them all the way through.

**screen** – a frame over which fabric is stretched for use in screen-printing. The screen supports the stencil or emulsion through which the ink is forced by the squeegee, created the print.

**screen-printing** – a stencil method of applying paint or ink to surfaces such as wood, paper, glass, metal, through a resist applied to fabric stretched over a frame. Can utilize a photographic process to create/control the resist for more precise imaging. The artwork is also cut into rubylith resist on computer-driven plotters or tables. See also *silkscreening*.

**seam** – a line formed by the joining together of two separate pieces of the same or different materials at their edges, as with flexible-face fabric material or wood, metal, or plastic sheet. Also called *butt joint*.

**second-surface** – refers to a sign made of a clear substrate, such as acrylic, where the art is applied in reverse on what can be an interior face of the sign, providing extra protection from the environment. Some large exterior signs are painted that way, as are many smaller identification, wayfinding, restroom, and evacuation signs that are subject to handling on a regular basis.

**SEGD White Paper on A.D.A.** – a publication of the Society for Environmental Graphic Design, Washington, DC, interpreting the requirements of the A.D.A. in regards to signage and environmental graphics. It can be obtained by writing to SEG D, \_\_\_\_\_ St., Washington, DC, or e-mailing the organization \_\_\_\_\_, or joining the organization and logging on to their Web page at [http://www.segd\\_\\_\\_\\_\\_](http://www.segd_____).

**sequence** – a continuous or related series of things following in a certain order or succession. In signmaking, a sequence may refer to the operation of a flasher or chaser, or to the order and frequency of messages in an electronic changeable copy sign, or the pattern of an advertiser's billboard campaign.

**serif** – a small line or embellishment finishing off the strokes of letters in some fonts (like this one). Well-known serif fonts include Souvenir, Times Roman, and Garamond.

**server** – in computer networks, servers act as a hub for storing programs used workstation computers.

**service** – the general maintenance of a sign. It may include cleaning, repainting, replacement of bulbs or lamps, and repairs, which may be provided on a regular basis under contract.

**service cover** – in an electric sign cabinet, a panel that allows ready access to the bulbs or lamps and the electrical connections for their replacement and maintenance.

**setback** – in a sign or development code, the distance between the primary face of the sign and the property line or right of way. The distance is measured in a straight line from the base/bottom of the sign. Most municipalities require that signs comply with specified setbacks or that a variance from the regulations be applied for and secured.

**shade** – a color made darker than the original by adding black to it.

**shadow** – duplication of an image that is slightly offset. *Drop shadow* is a simple copy and offset; *block shadow* joins the outlines of the original and duplicate to create a 3D-relief effect; and *cast shadow* alters the shape and size of the duplicate to imitate shadows cast from varied placement of light, as the sun does on a sun dial.

**sheet metal** – aluminum or steel in sheets or plates used as a sign substrate.

**shop drawings** – traditionally, drawings prepared by specific trades to describe the quantity, shape, size, and materials and other details to be manufactured, built, or constructed. In signage, it now refers to drawings prepared by fabricators describing their intended methods of construction and sequence of assembly to be reviewed by designer and owner for approval prior to construction and fabrication. The essential reason for shop drawings is to be sure the original design concept is accurately carried out in the construction process. See also *template, contract documents*.

**sign** – any device, structure, display, or placard which is affixed to, placed on or in proximity to, or displayed from within a building to attract the attention of the public for the purposes of advertising, identifying, or communicating information about goods and services.

**signage / signing** – interchangeable terms used to describe signs. Any group of posted commands, warnings, information, or directions.

**sign cabinet** – the enclosure of an electric sign, not including the components and mounting structure.

**sign can** – an informal term for SIGN CABINET.

**sign categories** – Signs are typically used for the following purposes: life safety or fire code, directional, identification, informational, life safety, orientation, ornamentation, point-of-purchase, regulatory, wayfinding

**sign code** – a sign code may be part of a government body’s land use planning regulations, or it may be a separate document designed to interact with other land use codes. As part of the police powers granted to local governments, a sign code normally seeks to promote the health, safety, and welfare of the public. Sign codes may regulate size, placement, illumination, structure and aesthetics of sign content and design.

**sign face** – the front surface of the sign (in elevation), where the graphics are placed. Also called *face*.

**sign location map** – usually a site plan or floor plan indicating where signs will be placed (called “sign locations”).

**sign schedule/ sign message schedule** – an inventory or list indicating the quantities of signs and messages for each individual sign. Typically used as a contract document for final text and sign wording, keyed to a sign location plan.

**sign type** – defines the style or use of each unique sign component in a system. Sign types are individually determined in each sign project. A sampling of sign type descriptions: building identification, directory, freestanding, monument, pedestrian directional, pedestrian informational, post and panel, regulatory, vehicular directional, vehicular informational, etc.

**Sign-Foam®** – a brand of specialized polymer foam cell products designed for three-dimensional signage applications, available in different densities and strengths. This open cell foam machines easily and holds shape well. When primed and painted, it can look like other more permanent materials.

**silhouette** – the overall shape or profile of a sign, or a block of copy within a sign.

**silicone** – **1.** trade name for a popular adhesive used in installation of letters and signs because of its elasticity, strength, reasonable curing time, and its impermeable nature. **2.** any of a group of polymers characterized by wide-range thermal stability, high lubricity, extreme water repellence, and physiological inertness, used in adhesives, lubricants, protective coatings, paints, electrical insulation, and synthetic rubber.

**silkscreening** – one of the oldest and simplest forms of printing. A print is made using a squeegee to force ink through stencil or emulsion that is supported by fabric that has been stretched over a frame to create a screen. Several synthetic fabrics have replaced silk as the fabric of choice for screen printers. See also *screen-printing*.

**single-face** – a sign consisting of one face, rather than back-to-back faces on a common frame or back-to-back messages on the same piece of material.

**sizing / size** – the substance applied to the substrate before gilding in order to make the gold leaf stick to the work surface, and its application. Today, the most common sizing used by glass gilders is made of gelatin capsules dissolved in boiling water and then strained.

**skeleton** – the metal frame on which a sign is installed.

**slip-base** – Foundation consisting of two bolts fastened between the foundation plate and the concrete footer.

**smoothing** – a method used to vary speed and movement of material and knife-head of a plotter, making for less-jagged transitions between nodes during cutting.

**snipe sign** – an overlay sign added to an existing sign layout, as an additional message to the main sign, for example a band across a corner saying “coming soon.” Also a term for illegal posting of handbills and posters without permits.

**soda-lime glass** – the most common type of glass manufactured and the type used in most fluorescent tubes and incandescent bulbs. Soda-lime glass is made from a combination of sand, limestone, and sodium carbonate, and can either be clear or colored.

**soil bearing** – refers to the ability of uncompacted soil to support a weight, such as the footing for a sign. The figure usually has to be obtained from an engineer (or soils engineer), and is expressed as pounds per square foot.

**solvent** – a petroleum-based liquid used to modify oil-based paints and inks and to remove them from sign components, frames, and brushes.

**spacer** – any device used in mounting letters or signs that separates them from the surface to which they are being installed. A spacer allows letters to be pinned out.

**specifications** – may include General Requirements, Products, and Execution sections for sign specification package. Similar to architectural construction format per CSI (Construction Specifications Institute) standards.

**spectacular** – an extra-large outdoor sign that incorporates special lighting and/or motion effects, or an interior sales display that also includes special lights and motion elements.

**spinner sign** – a sign, either freestanding or wall-mounted, where the messages rotate in the wind. A spinner sign is not considered an animated sign.

**spotlight** – a source of illumination for an externally illuminated sign; a lamp with a strong focused beam directed toward a sign.

**spun glass** – See FIBERGLASS.

**sputtering** – occurs when the electrode in a neon tube, because of the heat and electrical forces, gradually erodes, blackening the ends of the tube near the electrode and decreasing gas pressure, eventually making the tube inoperative.

**squeegee** – **1.** in screen-printing, a flexible blade mounted in a wood or metal handle and used to force ink through a stencil mounted on the screen. **2.** in signmaking, a hard plastic or nylon blade used to apply pressure to increase surface adhesion between cutting vinyl and the transfer tape or between the vinyl and sign face.

**standard frame** – the structural supports found inside a sign cabinet.

**stand-offs** – See SUPPORTS.

**star of life** – the asterisk symbol, indicating exit level, showing preferred route for gurney, emergency egress, etc., required by A.D.A. next to floor indication on elevator control panels and elevator jambs

**stencil** – a thin sheet of material into which a design is cut. When a stencil is placed on another substrate and paint or ink is applied, the image represented by the cut-out portion of the stencil is printed on the substrate below it. Stencils range from metal to card stock to photo emulsions.

**stippling** – a method for taking out brush marks and creating a transparent look on windows. Paint is mixed with linseed oil to slow the drying process, then brushed on the surface to be stippled. A stippler is created by wrapping a piece of cheesecloth or other lint-free cotton rag

around a wad of cotton, which is then either held firmly in the hand or securely attached to a short stick, taking care that the work surface of the stippler is wrinkle-free. Stippling is done by daubing the stippler over the wet, painted surface.

**stochastic screening** – a silkscreening process that conveys the tone of a screened image by varying the number and location of dots rather than just varying the size of the dots within the grid.

**stone signs** – typically sandstone, granite, marble, limestone, and other common decorative stone material. Letters can be stud-mounted to stone or they can be carved or incised into the face of the stone.

**streamer** – a long, narrow banner included in interior or window displays only.

**stretching** – **1.** the process of securing mesh to a frame in screen-printing. **2.** the stretching of vinyl sign face material over a flex-face sign cabinet.

**stroke** – a single movement of the hand or arm, or of a marking tool. Stroke refers to a pass of the squeegee in screen-printing, and a pass of the brush in painting. See also *stroke width*.

**stroke width** – the width of the major lines comprising a letterform. A wider stroke width is used to make a bolder letter, a narrower stroke width is used to make a lighter letter.

**structure** – in the sign industry, a fabrication designed for and capable of supporting a sign. Can refer to internal or external skeleton (exoskeleton) of sign as well as support pole or mechanism.

**substrate** – the material out of which the face is made. Wood, metal sheeting, paper, and acrylic are some examples of sign substrates.

**supports** – insulators that support a neon tube, as well as hold it away from the background surface and provide some impact resistance. Also called *stand-offs*.

**symbol of accessibility** – See INTERNATIONAL SYMBOL OF ACCESS (ISA).

**symmetry** – the balance of design elements in which one side equals or mirrors the other.

## t

**tack** – the stickiness of an adhesive under a given condition. Some adhesives require a particular temperature range for maximum tack.

**tactile sign** – a sign, or an area within a larger sign or area, that conveys its message through raised or engraved artwork, making it accessible to the visually impaired. Required by A.D.A. for all permanently identified rooms.

**tangential knife** – on a plotter, a blade holder that is mechanically turned to aid in deflecting the edge to create curved cuts.

**TCO** – Temporary Certificate of Occupancy, which typically allows a new building to be occupied before it is fully complete and therefore requires life safety signs to be in place, to protect the public at large.

**TDD** – telecommunications device for the deaf.. This communication system enables visual typographic messages to be transmitted and received over telephone lines. A.D.A. requires use of symbol to show where TDD unit is available.

**TEA-21** – Transportation Equity Act for the 21<sup>st</sup> Century. An extension of the ISTEA program passed in 1998.

**tempera** – pigment mixed in a water medium, usually with a binder and adhesive. Tempera paints produce a luminous effect.

**template** – a full-sized pattern, layout, or computerized output showing the exact size and placement of letters. Typically used for installing dimensional letters, signs, or architectural elements.

**temporary sign** – any sign that is not intended to be permanently installed. Banners and signs at construction sites are good examples of temporary signs. Often, sign codes seek to limit the length of time a temporary sign can remain in place.

**terrazzo** – a finish floor material of concrete with an aggregate of marble chips selected for size and color, ground and polished after curing. Terrazzo used to integrate words, graphics, shapes and maps into floors of heavy traffic areas.

**thermoforming** – a process that takes a flat sheet of material and gives it dimension by heating then forcing it into a mold either mechanically or pneumatically. See also *vacuum-forming*.

**thinner** – any liquid used to reduce the thickness of paint or ink.

**three-dimensional (3D) engraving** – a routing procedure where the tool bit can be moved independently along the up-and-down *z*-axis while still traveling an *x/y*-axis tool path. 3D engraving can create relieves and hand-chiseled looks while removing material from a substrate.

**throughput** – the actual speed of a plotter in completing a job. Difficult to measure, but it represents a plotter's ability to process information and then cut an image.

**thumbnail** – a type of rough sketch of a design made prior to developing more finalized presentations.

**tiling** – the digital process of dividing a large image into individual sections to print with overlap.

**time and temperature display** – among the first electronic devices to change copy, these popular signs alternate between showing the time and temperature. Some also display a simple messages.

**time switch** – a switch that utilizes a clock or timer to automatically turn on and off electric signs at set times each day.

**tint** – a color made lighter than the original by adding white to it.

**touch screen** – computerized CRT or LCD screen directory or information station that is activated by touching the screen. See also *interactive*.

**tracking** – the ability of a computer, at the operator's instruction, to add or subtract minute increments of space between letters. See also *letterspacing*.

**trademark** – used by a business to distinguish itself and its products from competition. A trademark may include a name, symbol, word, or combination of those. Protected by the federal government and considered to have financial value, a sign maker should only reproduce a trademark with the company's permission and should discourage customers who seek to imitate well-known trademarks too closely. See also *logo*.

**traffic count** – the estimated number of people who will see a sign in a given time period. Traffic count is most commonly associated with number of vehicles passing a location in a day.

**transfer tape** – a medium-tack adhesive coated on translucent paper. Transfer tape is placed on weeded vinyl images still on the original carrier liner; the tack of the tape is stronger than the adhesion of the vinyl to the coated liner, so the image is pulled off the liner in a transfer to another surface.

**transformer** – in electric signs, the mechanical or electronic component that transforms the voltage coming into the sign (the primary voltage) into a higher or lower voltage (the secondary voltage) necessary to run the sign. Most signs – especially neon, which operate at 990-15,000 volts – require a higher voltage to operate, but all low-voltage lighting requires a step-down transformer (unless powered by a battery).

**translucence** – the property of a material such as vinyl, paint, or ink that allows the passage of some light through it without being transparent. Internally illuminated signs rely on translucent paints and vinyls.

**transparency** – the property of a material that allows light and images through and may also show a color tint.

**trapping** – in screen-printing, to overlap one color on another. Trapping may result in the creation of a third color in the overlap area, or – if opaque inks are used – the edge of the first color may be hidden for purposes of registration. See also *bleed*.

**tri-color** – an LED that displays only the colors red, yellow, and green.

**triple message sign** – a type of sign consisting of rotating triangular louvers. The louvers turn in unison showing three different messages as the three faces are exposed. Allows for three times the static advertising/communication power at one location.

**tube colors** – tubing for neon signs is produced as a clear glass, or in colors. Different tube colors serve as filters that only allow the desired color to shine through. In many cases the only way to achieve rich primary colors is through colored glass.

**tube diameter** – the term used to describe the width of a tube. The standard measurement to describe the width of neon tubing is expressed in millimeters.

**tunneling** – the separation of a laminate from a substrate, appearing in a straight line/channel, due to insufficient adhesion, inadequate tension/stability during application, inadequate quality of substrate, or improper curing after application.

**typeface** – the design of a given set of letters, numbers, symbols, and punctuation, without reference to its size or width. See also *font*.

**typographic terms** – terminology associated with typesetting, as utilized in the sign industry: ascender, condensed, counter, descender, extended, flush, font, kerning, leading, letterspacing, line spacing, sans serif, serif, stroke width, tracking, typeface, word spacing.

## U

**ultraviolet light (UV)** – part of the spectrum ranging from 185 to 450 nanometers. UV has both a negative and positive influence on the sign industry. When UV strikes certain surfaces, such as the phosphors in neon and fluorescent tubes, it is transformed into visible light. UV is also used for curing some screen-printing inks and paints. On the other hand, UV light is the prime cause of pigment failure in some paints and vinyls, especially red ones.

**underwriters laboratory (UL)** – a private organization that tests electrical devices and their construction and certifies their safety.

**UV** – See ULTRAVIOLET LIGHT.

## V

**vacuum-forming** – taking a flat sheet of material and giving it dimension by placing it in a mold, heating it until pliable and then drawing the air out of the mold, creating a vacuum and forming material to the mold.

**value engineering** – assessing a sign based on the cost of its material, design, installation, and maintenance, with the goal of getting the best value for the money.

**variance** – a method by which a government body formally deviates from the terms of its sign or zoning code. Typically, obtaining a variance for a sign requires the applicant to show that it would not be contrary to the public interest or that a literal enforcement of the regulations would result in unnecessary and undue hardship (due to conditions peculiar to the property).

**vector** – in computerized signmaking, a line segment between two coordinates, on which a knife or tool path can be created for plotting or routing.

**vectorization** – a function of the process of tracing around a bitmap image to create an outline comprised of line segments, or vectors.

**VHB** – tape produced by 3M . Very High Bond joining systems are applied between mated parts to eliminate the need for mechanical fasteners or welded attachments. This tape is available in many grades and thicknesses

**video wall** – array of CRT monitors, plasma screens, etc., linked to display a single image or variety of images.

**vinyl** – polyvinyl chloride (PVC) film that, in signmaking, is backed with an adhesive that creates a strong bond to a surface when pressure is applied. Many different integral colors are available with adhesives having different levels of aggressiveness (adhesion) for various applications from permanent to semi-permanent to temporary.

**vinyl letters** – letters cut from adhesive-backed material, in dozens of opaque, translucent, metallized, and transparent colors and patterns.

**viscosity** – the thickness or density of a paint or ink.

**visible** – capable of being seen by the human eye. A sign may be visible without being readable or legible.

**vitreous** – resembling glass, as in transparency, brittleness, hardness, glossiness, etc.

## W

**wall mount** – a single-face sign mounted on a wall. Another name for a WALL SIGN.

**wall sign** – in the most literal sense, a sign that is painted on a wall. The term is often expanded to include flat signs that are placed on or attached to the wall of a building. These latter signs are also called *fascia-mounted signs* and *wall mounts*.

**washout** – the process of opening up the image area of a screen after a photo stencil has been exposed.

**water resistant** – describing a face that has been treated to make it resistant to the damage or deterioration caused by water.

**waterjet-cutting** – computerized high-pressure stream of water used to cut stone and metal up to 2" thick. Also called *hydrocutting*.

**wax transfer** – a method of heating a colored wax material and printing it on to vinyl.

**wayfinding** – – the process of using spatial and environmental information to find one's way in the built environment. It can also be defined from the standpoint of the designer or owner and operator seeking to establish or improve the function of a particular environment. Wayfinding is not a separate or different activity from traditional signage design, but rather a broader, more inclusive way of assessing all the environmental issues which affect our ability to find our way. This word has gained popularity with the adoption of the Americans with Disabilities Act (A.D.A.). In its most literal sense, wayfinding is the ability of a person to find his or her way to a given destination.

**WBE** – Woman-Owned Business Enterprise.

**weathering steel** – a steel alloy that forms a tenacious, self-protecting rust layer when exposed to the atmosphere. See *cor-ten steel*.

**weed** – the process of peeling extraneous vinyl or matrix way from a plotter cut, leaving only the sections representing the final image. Pulling the extra material away in one quick stroke is known as "rip weeding."

**weep hole** – a small opening or hole in the bottom of a letter or a sign cabinet, placed at the lowest point to prevent water from accumulating in a unit.

**wet location fixture** – a watertight electrical or light fixture that is sealed to protect against moisture.

**White Paper on A.D.A.** – See SEGD WHITE PAPER ON A.D.A.

**white space** – See NEGATIVE SPACE.

**window sign** – a sign that is mounted for display on a window, and intended to be viewed from the outside.

## X

**x height** - in a given typeface, the height of the lowercase letters which do not have ascenders or descenders.

**x-axis** – theoretical horizontal line providing a lengthwise reference point for plotters and routers.

## y

**y-axis** – theoretical vertical line providing longitudinal reference point for plotters and routers.

**yield** – **1.** in regulatory signs pertaining to traffic flow, concede right of way. **2.** in production, the amount of material utilized versus what is wasted or dropped. See also *nesting*, *maximum yield*.

## Z

**z-axis** – theoretical line providing a depth reference point for routers. Adds third dimension when plotting coordinates as part of *x*, *y*, and *z* axes.

**zinc** – a malleable metal that has unique gray appearance, somewhat like lead, and can be used raw in exterior applications.