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# Screen Printing Glossary

Screen Printing Glossary – Definition of Terms | Screen Printing Photo Glossary (Image Pictorial) (/screen-printing-photo-glossary.html)

This glossary includes most screen printing, graphic and business terms used in the screen printing industry. The definitions are for reference only. Terms can vary between people and companies. The glossary is as accurate as ASPA authors can ascertain. We assume no responsibility for the use of information presented.

## GLOSSARY

### A

**Acetone:** Flammable chemical solvent that can be used to remove waterproofing from nylon jackets. Acetone is the principle ingredient in nail polish remover.

**.ai:** Adobe Illustrator file. A popular vector type file used in the graphics industry.

**Air-dry:** The property of any ink that will dry without the use of heat by evaporation.

**Artwork:** Common term for an image or text that will be used for printing.

**Automatic Press:** A screen printing press in which the printing and the operation of the machine is accomplished through the use of electric servos and hydraulics. An automatic screen printing press has a much higher production rate than a manual press and will typically produce a higher quality print result.

### B

**Back Clamps:** Also know as rear clamps. A clamping system on a screen printing press in which the screen is held in place by clamps located in the back of the print head.

**Bitmap:** Electronic image composed of individual pixels.

**Black light:** Common name for any lamp that emits ultraviolet light. Black light appears as violet to the human eye.

**Black and White Artwork:** Also known as line art. Any art that consists of a black image on a white background.

**Bleed:** A problem that occurs when dye migrates from the fabric into the imprinted ink on a garment. This problem occurs in 100% polyester or 50/50 blend garments only. Can be avoided by using bleed resistant inks and by taking certain precautions when printing, curing, and handling the garments.

**Blend:** Simultaneous printing of more than one color of ink on the same screen creating a mixing or blending effect.

**Blockout:** An emulsion like chemical that is used to cover pin holes and to block out any area of the screen that you do not want ink to pass through.

**Build up:** Also known as ink buildup. A condition that develops during the “wet-on-wet” printing process in which ink accumulates on the bottom of a screen.

**Burn:** To expose an emulsion coated screen to a light source to create a stencil.

**Butt Registration:** The alignment of artwork in which the registration of one color “butts” up against another color without any gap in between. Also known as a butt cut.

## C

**Camera-Ready Art:** Production ready art. Artwork that requires no alterations or modifications and is ready for output onto film or vellum.

**Capillary Film:** A light sensitive film, used to create a stencil, that when applied to a screen with water adheres to the mesh by capillary action.

**Carousel:** See rotary printer.

**Catalyst:** An chemical additive added to ink that will improve its adhesion properties.

**.cdr:** A CorelDraw file.

**Chiller Plate:** A metal plate that is applied to a flashed print to absorb the heat from the print.

**Choke:** To reduce the thickness of the outer edge of an image so that subsequent print colors will not overlap.

**Clip Art:** Ready to use artwork, usually in vector format, and typically copyright free.

**Clogging:** A condition that occurs when ink dries in the mesh of the screen preventing further ink flow through the stencil.

**Coater:** A metal trough used to dispense emulsion for the purpose of coating screens.

**Coating Stroke:** A heavily angled print stroke that is used to increase the opacity of a print.

**Cold Peel Transfer:** A plastisol ink transfer where the transfer paper is not removed until the print has completely cooled; resulting in the entire ink deposit being transferred to the garment.

**Color Change Ink:** See photochromic ink.

**Colorfast:** The ability of a garment or print to hold its colors over repeated washings.

**Color Separation:** The separating of each color in a design into a separate image. Each individual separated color will then be printed in a certain order to reproduce the original

composite image.

**Composite Image:** A combination of all the color separated films.

**Contract Printing:** Printing done on a per print basis and where the garments are usually supplied by the customer.

**Contrast:** The difference between light and dark tones in an image.

**Cool Down:** Allowing a flashed print to cool down in temperature before any further printing is done.

**Cool-down Station:** Moving a flashed print to an unused station on a rotary printer so it can cool down.

**Copy:** Another term for artwork.

**Copyright:** Laws governing the ownership and use of artwork.

**Crocking:** Tendency of a print to come off when rubbed or subjected to abrasion.

**Cure:** The process of using heat to completely fuse plastisol ink. Technically incorrect term for "drying" ink.

**Curved Screen:** Rounded screens used to print on the crown of ball caps.

**Cyan:** One of the process print colors, a certain shade of blue.

## D

**Darkroom:** A room devoid of light used for the purpose of drying screens coated with emulsion or capillary film.

**Degrease:** The process of washing a screen with a cleaning solution to remove all traces of dirt and oils prior to coating with emulsion.

**Dehaze:** using a caustic cleaning agent to remove ghosted images from a screen.

**Diazo Emulsion:** A two part photosensitive emulsion.

**Digital Imaging:** A term used to describe the creation, display and printing of images through computers and related digital equipment.

**Digital Transfer:** A term used to describe transfers that are processed and/or printed through a computer. Digital transfers are output via ink jet or color laser printers onto special transfer paper then applied to a garment with a heat transfer press.

**Direct Emulsion:** Photo sensitive liquid emulsion which is applied directly to a screen with a scoop coater.

**Discharge Ink:** an ink used to print lighter colors onto dark background fabrics, they work by removing the dye of the garment.

**Dot Gain:** A condition that occurs in printing halftones where the dots increase in size as a result of ink buildup on the bottom of the screen.

**DPI (Dots per inch):** A measure of printing resolution indicating the number of individual dots a printer can produce in a linear one inch space.

**Drop Shadow:** A graphic "shadow" effect that gives an image a three dimensional look.

**Dryer:** A common term used to describe a belt driven, chambered device with one or more heating elements used for the purpose of curing a print. Also known as a textile dryer.

**Drying:** A common term, though technically incorrect, for curing a print. A print may appear to be dry to the touch but may not be cured.

**DTG (Direct to Garment):** Printing process utilizing a special ink jet based printer that uses special textile inks to print directly onto a garment.

**Durometer:** unit of measurement used to describe the "hardness" of rubber. In screen printing, durometer relates to the "hardness" of a squeegee blade.

**Dual-Cure:** A type of emulsion that is part diazo, part photopolymer.

**Dye Migration:** A problem that occurs when dye migrates from the fabric into the imprinted ink on a garment. This problem occurs with 100% polyester or 50/50 blend garments only and can be avoided by using bleed resistant inks and by taking certain precautions when printing, curing and handling the garments after curing.

## E

**Elliptical Dots:** Oval shaped halftone dots.

**Emulsion:** Photosensitive chemical in either liquid, roll or sheet form that is applied to a screen and used for the purpose of making a stencil.

**Epoxy:** A solvent based ink used for printing on certain types of substrates when a durable, abrasion resistant print is required.

**EPS:** Encapsulated Postscript. An electronic vector file.

**Exposure:** Exposing an emulsion coated screen to light to create a stencil. Also known as "burning" a screen.

**Exposure Calculator:** A device used to determine the optimum exposure time for screen making.

**Exposure Unit:** A device used for the purpose of making a stencil consisting of a light source and some means of holding a screen in place against a film positive.

**Extender Base:** A colorless ink additive used to extend the coverage of ink.

## F

**Film:** Common term used for a film positive.

**Film Positive:** Right reading media of the image used for exposing a screen. The most common types of media used for film positives are ink jet film and vellum paper.

**Fish Eyes:** An undesirable condition that occurs when screens are not degreased and/or dried properly. Fish eyes appear as round spots on a screen once the emulsion has dried.

**Flash Cure:** To partially cure a print by subjecting the print to a heat source for a short amount of time.

**Flash Cure Unit:** An infrared heating element that is typically attached to a rotary turntable,

positioned above the platen and used for the purpose of bringing a print to a partially cured state so a second print stroke can be applied to achieve desired opacity. A flash cure unit can also be used to completely cure a print.

**Flood Stroke:** A heavily angled squeegee stroke used to fill the screen with ink.

**Fluorescent Ink:** Special inks that contain extremely bright "neon" pigment colors.

**Font:** A specific type face.

**Four-Color Process:** Also known as CMYK or Full Color Process. A printing technique utilizing four ink colors (Cyan, Yellow, Magenta and Black) to print the entire color spectrum.

**Full Cure:** A state in which the plastisol ink film has completely fused, typically when a temperature of 320 degrees has been reached.

**Fusion:** The state in which plastisol ink has reached full cure.

## G

**Ganging:** Placing multiple images on the same screen.

**Gap Registration:** The alignment of artwork in which a gap exists between one color and another.

**Gel:** Bringing plastisol ink to a partial cure by raising it to a temperature of 175 -240 degrees Fahrenheit.

**Ghost Image:** A faint image that remains on the screen after the screen has been reclaimed. Ghosted images can usually be removed with a dehazing agent.

**Gray Scale:** An continuous tone image devoid of color consisting only of white to black shadings.

## H

**Halftone:** A color or grayscale image that has been converted into a series of large and small dots.

**Halftone Dot Types:** Shapes of halftone dots. An elliptical dot is the ideal dot shape for screen printing. Round, square and diamond shaped dots are also used.

**Halftone Line Count:** Number of lines per inch (LPI) also known as line or screen frequency. The lower the LPI, the larger the halftone dots will be. Common halftone line counts for garment screen printing is a range from 35 LPI to 65 LPI.

**Hand:** How a print feels when touched. A print is commonly described as having a soft hand or a rough hand.

**Heat Gun:** A hand held pyrometer used to determine the temperature of a substrate. Also the term for a hand held heating device that can be used to cure a print.

**Heat Transfer:** The printing of an image in reverse onto special paper then transferring that image with a heat transfer press to a garment or other substrate.

**Heat Transfer Paper:** Special paper that will release the ink printed on it when pressure and

heat is applied with a heat transfer press for a certain amount of time.

**High Density:** A special effect also known as lenticular printing. A method by which normally flat static images convey depth. This is done by using an extremely thick stencil and with inks made specially for this purpose.

**Hot Split Transfer:** A plastisol ink transfer where the transfer paper is removed within a few seconds of application. The ink then “splits” leaving a portion of ink on the garment and a portion on the paper. Hot splits transfers are typically used on light colored garments and have a soft hand.

I

**I.D.:** Inside dimensions of a screen frame.

**Image Area:** The area on a screen where the image appears.

**Index Color Printing:** Reducing the color palette of an image to a few colors that best represents the color representation of the image. The individual colors are then output separately and printed in a specific order.

**Infrared:** Specific energy wavelengths which produce heat. IR radiation is typically used to develop the heat in a heating element of a flash cure unit or electrical textile dryer.

**Ink:** Common term used to describe the printable substance that is used to make a print. In the textile printing business, the most widely used ink is plastisol.

**Ink Additives:** A chemical agent added to ink to alter or improve its printing properties.

**Ink Jet Positive:** A special type of clear ink jet media printed with an ink jet printer used to create a film positive.

J

**Jaggy:** Term referring to “stepped” or pixilated look that you see along curves in bitmap images.

K

**Keyline:** A description of the main outline of a design.

L

**Light Integrator:** An electronic component in an screen exposure unit that detects and controls changes in light intensity.

**Light Scattering:** Unwanted reflective light.

**Line Art:** Black and White artwork consisting of no halftones or color.

**Logo:** A special symbol or graphic used to identify a particular business or organization.

**Loupe:** A magnifying glass used for the close examination of artwork, a print and/or screen mesh.

## M

**Magenta:** One of the process print colors, a certain shade of purplish red.

**Material Safety Data Sheet (MSDS):** Informational sheets supplied by the manufacturer indicating the composition of substance and health and safety data of the product.

**Mesh:** See screen fabric.

**Mesh Count:** The number of threads in one square inch of screen fabric, measured in both directions. The lower the number, the coarser the mesh and the larger the screen opening.

**Mesh Counter Determiner:** A gauge used to determine the mesh count.

**Mercury-Vapor Lamp:** A light source used for exposing screens. A good source of UV light.

**Metal-Halide Lamp:** A light source used for exposing screens. An excellent source of UV light.

**Metallic Ink:** A plastisol ink base containing metallic particles.

**Micro-registration:** a mechanical adjustment on the print head of a screen printing press used for precise movement and alignment when lining up or adjusting a print job.

**Mill seconds:** Apparel from the garment manufacturer that contain small defects and are sold at a discount. Defects can include holes, mis-stitching and size problems.

**Mineral Spirits:** A flammable, petroleum based solvent that can be used to clean plastisol ink from a screen.

**Misprint:** A print containing a defect of some kind.

**Moire (pronounced “moray”):** An unwanted herringbone-like pattern that appears in a print as the result of misalignment of overlapping lines, halftones, and screens.

**Monofilament:** Screen fabric woven from single strand threads.

**Multicolor:** Artwork containing more than one color.

**Multifilament:** Screen fabric woven from multiple strand threads.

## N

**Name Drop:** Adding a custom name to a generic design.

**Newton:** The unit of measurement for screen tension.

## O

**O.D.:** Outside dimensions of a screen frame.

**Off-contact:** A method of screen printing of having a slight gap between the screen and the substrate for improved printability.

**Opacity:** An ink's ability to cover the underlying color of the substrate.

**Open Area:** The area of a stencil that the ink passes through.

**Overcured:** Subjecting the substrate to excessive heat. Overcuring will result in a print that will crack and fade prematurely. Overcuring plastisol transfers will result in transfers that will not adhere properly.

**Overexposed:** Exposing a screen for too long of a period of time resulting in a screen that will be difficult or impossible wash out.

**Overprinting:** Printing one color on top of another color.

P

**Paper Thermometers:** Specially made paper strips that have temperature readings printed on them indicating the temperature of a garment as it is being run through the dryer or under a flash cure unit.

**.pdf:** Portable document format. An Adobe Acrobat file.

**Phosphorescent Ink:** Glow in the dark ink.

**Photochromic ink:** A special effects plastisol ink that appears relatively colorless when viewed in indoor light but will display a certain color (depending on the pigment) when exposed to bright sunlight.

**Photopolymer:** A type of emulsion that is fast developing and contains a high solids content.

**Pigment:** The component of ink that provides the color.

**Pinholes:** Unwanted tiny specs that appear in the stencil after exposure.

**Pixilated:** In computer graphics, pixilation is an effect caused by displaying or printing a bitmap at such a large size that the individual pixels are visible to the eye.

**Plasticizer:** A chemical component in plastisol ink used to give it the property of flexibility.

**Plastisol:** A screen printing ink primarily for textile printing composed of the following components: PVC (polyvinyl chloride), color pigments, and plasticizers.

**Platen:** Also known as a shirt board.

**Platen Adhesive:** Adhesive in either spray or liquid form that is used to hold down garment on shirt board when printing.

**Platen Mask:** A paper based tape that is applied to a shirt board (platen) for protection.

**Plugging:** See clogging.

**Point:** The standard unit for measuring font size with 72 points equaling one inch.

**Point Light Source:** A single identifiable source of light. Used to describe a desirable light source for a screen making exposure unit.

**Positive:** See film positive.

**Post Hardening:** Subjecting a screen to a UV light source after the washout process and the screen has dried to completely harden the emulsion to create a durable stencil.

**Powdered Adhesive:** Finely ground adhesive powder applied to cold peel transfers after printing to aid in the adhesion of the print to the garment.

**Print Head:** The component of a screen printing press that the screen is attached.

**Print-Flash-Print (PFP):** Screen printing technique used to achieve an opaque print result by printing, flash curing the print and then applying another print stroke.

**Process Colors:** Cyan, Yellow, Magenta and Black (CMYK).

**Proof:** A sample print. Also known as a test print.

**.psd:** Photo Shop Document. An Adobe Photoshop file.

**Puff Ink:** A special effect type of plastisol ink that "raises up" or expands dimensionally during the curing process.

**Puff Additive:** An ink additive for plastisol ink to make it expand in size.

**Pyrometer:** An non-contact measuring instrument used to determine the temperature of an object's surface. A pyrometer used in the screen printing industry is often referred to as a "heat gun."

## Q

**Quartz Lamp:** A light source that can be used for exposing screens. Relatively low in UV output.

## R

**Rear Clamps:** Also known as back clamps. A clamping system on a screen printing press in which the screen is held in place by clamps located in the back of the print head.

**Reclaim:** To remove old emulsion from a screen so the screen can be reused.

**Reducer:** A colorless ink additive used to lower the viscosity of the ink making it easier to print.

**Reflective Ink:** A special effect plastisol ink containing tiny reflective elements.

**Registration:** The process of lining up the screen image to the original art and/or separations on a printing press and/or exposure unit.

**Registration Mark:** "Crosshair" target marks used for aligning a screen image to the source art.

**Resolution:** In computer graphics, resolution refers to the quality of an image as measured in DPI (Dots per inch). In the screen making process, resolution refers to the ability to "wash out" or resolve fine detail of an image on a screen.

**Retarder:** An chemical ink additive that slows down the drying or curing of an ink.

**Retensionable Frames:** Special frames that allow the mesh to be applied over the screen without the use of adhesives or stretching equipment. The mesh is drawn tightly over the frame using either a roller or telescopic tightening system.

**Reverse:** Artwork in which the light and dark areas are inverted.

**Right-reading:** Artwork that appears correct in appearance to the observer, not mirrored or otherwise altered.

**Rotary Printer:** A screen printing press consisting of several print heads and/or platens that can be moved in a rotary fashion for multicolor printing.

## S

**Safelight:** A light that should be used when working with photosensitive materials like emulsion or capillary films to prevent accidental exposure to ultraviolet light. A yellow "bug light" works well for this purpose.

**Sawtooth:** A jagged appearance in the stencil image that looks like "stair-steps."

**Scoop Coater:** See coater.

**Screen:** A wooden or metal frame with mesh tightly attached to it.

**Screen Abrader:** A chemical agent used to roughen the surface of screen mesh to aid in the adhesive of capillary film.

**Screen Clamps:** Mechanical hold down devices used to hold the screen in place for printing.

**Screen Clogging:** See clogging.

**Screen Fabric:** Woven material made of polyester, silk ,or stainless steel with uniform openings that will be attached to a screen frame.

**Screen Frame:** The frame to which screen fabric is attached.

**Screen Opener:** A chemical that is used to remove clogged ink from a stencil.

**Screen Printing:** Printing method where ink is driven through a stencil with a squeegee.

**Screen Stretcher:** A device used to stretch mesh over a screen frame.

**Sensitizer:** A chemical added to liquid emulsion to make it harden when exposed to ultraviolet light.

**Serigraphy:** Technical term for screen printing.

**Shelf Life:** The length of time a product can be stored before it loses its ability to work properly.

**Shirtboard:** Also known as platen.

**Side Clamps:** Also known as side clamps. A clamping system on a screen printing press in which the screen is held in place by clamps located on the side of the print head.

**Simulated Process:** A screen printing technique typically used for the reproduction of photographic or full color images involving the use of color separation software and printing certain colors of opaque inks in a certain order on high mesh count screens.

**Sizing:** Chemical agent used to increase the weight, crispness and luster of a garment. When heat from a dryer or flash cure unit heats up a garment, sizing agents begin to burn off creating a characteristic odor and smoke.

**Snap-off:** A condition that describes the "lift-off" of the mesh from the substrate during a print stroke.

**Sodium Metaperiodate:** The key ingredient, along with water that is used in most screen reclaiming solutions.

**Soft-hand:** See hand.

**Solvent:** A liquid that dissolves a solid.

**Solvent Based Inks:** Non-plastisol inks, such as acrylic, UV and epoxy based inks, typically used for the printing of hard goods and other non textile products.

**Special-effects Inks:** Special effect inks include metallic, shimmer, glitter, high density, glow in the dark, puff, reflective, photochromic (color change), suede, gel, black light and others.

**Spray Adhesive:** A type of platen adhesive that is dispensed through an aerosol can.

**Spread:** In computer graphics, adding a slight outline to an image for the purpose of compensating for printing press misregistration.

**Spot Color:** An image that contains discrete color elements, non-photographic in nature.

**Squeegee:** Wooden or metal handled tool with a rubber blade used to drive ink through a stencil by pulling the squeegee across the screen.

**Squeegee Angle:** The angle the squeegee is held during the printing process. The more of an angle the squeegee is held downward (assuming equal pressure in each stroke) the more ink that will be deposited on the substrate (and the darker or more opaque the print becomes.)

**Stencil:** The portion of an exposed screen containing the image to be printed.

**Stretch Test:** Stretching the print on a garment to see if it cracks. Used as a spot check test to see if the ink is cured.

**Strike-off:** See proof.

**Stroke:** The pulling of the squeegee across a screen to produce a print.

**Sublimation:** A heat transfer that is made by printing a special type of ink onto paper and applying it to 100% polyester, nylon, and specially coated hard good substrates including mugs, plates etc. Sublimation is also a term used to describe the unwanted condition of dyes in the fabric migrating from the garment into the cured plastisol ink causing bleeding or discoloration of the printed image.

**Substrate:** Term for the item that is being printed.

**Square Dots:** A term used to describe the type of dot used for "index" printing.

## T

**Table Printer:** A small screen printing press that can be placed on a stand or on a table.

**Tack:** The adhesive strength of platen mask "application tape" and/or ink.

**Temperature Tapes:** Specially made paper strips that have temperature readings printed on them indicating garment temperature as it is being run through the dryer or under the flash cure unit.

**Tension:** The "tightness" of the screen mesh, measured in newtons.

**Tension Meter:** Device used to measure screen tension.

**Thixotropic:** Term used to describe the property of ink denoting that as ink is stirred, the lower its viscosity becomes. In simple terms, the more you stir ink, the smoother it becomes.

**Tint:** Changing the color of an ink by adding white (or another color) to it.

**Tonal Range:** The difference between the lightest and darkest color in an image.

**Toner Darkening:** Chemical spray used to make a vellum positive more opaque.

**Toxicity:** Degree to which something is able to produce illness or damage to an organ.

**Transfer:** General term used to describe any type of indirect printing.

**Transfer Adhesive:** A powdered adhesive that will improve the adhesion of a transfer to a substrate.

**Transfer Inks:** Special plastisol inks that are used for printing cold peel and hot split transfers.

**Translucent:** The property of allowing light to pass through diffusely.

**Transparent:** The property of allowing light to pass through completely.

**Trap:** An outline placed around a fill color to compensate for misregistration.

## U

**Ultraviolet Light:** Light with a wave length shorter than that of visible light. It is so named because the spectrum consists of electromagnetic waves with frequencies higher than those that humans identify as the color violet. Ultraviolet light is commonly called black light. UV light is the ideal type of light for exposing screen and curing certain types of ink.

**Underbase:** A thin coating of ink printed first and cured to act as a base for which all other colors are to be printed on. Underbasing is usually required when printing multi-color designs on colored shirts.

**Undercure:** Term used to describe any print in which the ink did not cure completely. An undercured print will most likely not pass a wash test and wash off when the garment is laundered.

**Undercutting:** Unwanted screen exposure around the edges of an image caused by light scattering.

**Underexposed:** Insufficient screen exposure time, resulting in a soft stencil that can break down prematurely during the print run.

**UV Inks:** Certain types of inks that when exposed to UV light will harden or cure.

## V

**Vacuum Blanket:** The rubber sheeting used in conjunction with a vacuum pump system on an exposure unit to draw the screen down tightly against the glass and film positive.

**Vacuum Platen:** A specially made platen that has many small holes drilled into its surface in which a vacuum hose is attached to its base. A vacuum platen is typically used for printing transfers and other light weight paper goods where adhesion by vacuum is more practical than chemical adhesion.

**Vacuum Table:** A special table often made of steel in which the surface has many tiny holes. When used in conjunction with a vacuum pump system, lightweight substrates such as paper or transfers are held down by the vacuum without the need of any chemical adhesions or spray.

**Vellum Paper:** A special type of translucent paper usually printed with a laser printer used to

create a film positive.

**Viscosity:** Commonly perceived as the "thickness" or "thinness" of an ink.

W

**Washout:** Applying water to the emulsion coated screen after exposure to light for the purpose of developing the image on the screen.

**Wash Test:** Laundering a printed garment in a washing machine to determine if the print is fully cured. Plastisol ink will wash off of an undercured garment during the wash test.

**Water Based Ink:** Non plastisol inks that can be air dried.

**Wet-on-Wet Printing:** Printing consecutive ink colors without flash curing.

**Wetting Agent:** A chemical applied to the screen to make it "wetter" than would be possible with water alone. A wetting agent is used as an aid in the adhesion of the capillary film to a screen.

**Wicking:** The bleeding of ink into the fibers of the garment during the wet-on-wet printing process.

**Work Order:** Document used to show all of the necessary information required for the efficient production of an order.

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