

SWOP Specifications

These Specifications are for the preparation of input materials that will go to the publication printer. This includes film, digital files and proofs of all kinds.

Viewing of Artwork and Proofs

Artwork, proofs and final printed product MUST be viewed and/or compared using 5000 Kelvin (D50) illumination complying with ISO 3664:2000, "Viewing conditions for graphic technology and photography" with the exception noted below.

SWOP specifies that when viewing SWOP proofs or printed signatures the backing under the proof should consist of at least five sheets of the same substrate material. Note: This viewing condition deviates from that specified in the ISO 3664 P1 conformance level, which states that a black backing should be used when viewing proofs and printed signatures.

Digital Page Preparation

SWOP assumes that all pages are created by digital means, whether they are to be delivered as film or digital file. Most publications are now requesting the page to be delivered in digital form. We will address both forms of delivery.

A content proof made from the supplied digital files must be furnished by the page creator to the Prepress Service Supplier with all supplied digital files. The proof should be identified as to its purpose (i.e., "content only," "color," etc.).

What is important is that the printed results should meet the customer's expectations for quality reproduction whether the page is produced from film or a digital file.

Page Sizes

See individual publisher's mechanical specifications for ad size dimensions and standard (non-bleed) and bleed sizes.

All live matter of importance, including all type, must be a minimum of 3/8" inside the final trim in order to guarantee that no essential information is trimmed off.

Type Reproduction

Thin lines, fine serifs and light weight or very small type should be restricted to one color. Reproduce all colored type with a minimum of colors.

Reverse type and line art should not be less than .007" (1/2 point rule) at the thinnest part of a character or rule. Reverse type should use dominant color (usually 70% or more) for the shape of letters. Where practical, and not detrimental to the appearance of the job, make the type in subordinate colors slightly larger to minimize register problems on the production press. Small type and fine serifs should not be used for reverse type. The surrounding tone must be dark enough to ensure legibility. See section below on "Image Trapping."

Overprinted (surprinted) type should not be less than .004" (1/3 point rule) at the thinnest part of a character or rule. When type is to be overprinted, the background should be no heavier than 30% in any one color and no more than 90% total in all four colors for legibility.

Image Trapping

All supplied materials sent to the publisher or printer must be properly trapped and, when possible, image trapping should be represented in the accompanying SWOP proofs.

By "Trapping" we mean that overlap of colors should be introduced when line work abuts line work, or abuts continuous tone images, with the dominant colors providing the image shape. Lighter colors should be spread into darker colors. This overlap should be sufficient to minimize register problems on production presses. Normally the overlap of colors will be in the area of .002" to .004". This will vary depending on the subject matter and the colors involved.

Since files must be trapped when exchanging PDF/X-1a files, the trap flag must be set to "TRUE."

Ad #: Tenth Edition SWOP
Caption: Agency
Client: Agency
Job #: 51-SWOP
Unit: Manual
Trim (flat): 16" x 10.5"
Bleed (flat): 16.25" x 10.75"
Live (flat):
Line Screen: 150/4C
Engraver:
Acct. Manager:
Art Director:
Writer:
Print Producer: Ron sheffield
Traffic:
Prefix: 44966
Proof: 6
Date: 3/11/05
Studio Artist: vh-jb
Art Producer: NA
Font: Helvetica, Univers, Serifa (AD) Electra (I)



Vignette or Fadeaway Edges / Minimum Printable Dot (Minimum Tone Value)

Special care should be taken with fadeaway edges where the fadeaway is made up of more than one color. In many cases, fadeaway shadows are best reproduced in black only.

With computer-to-plate technology it is possible to accurately produce 1% dots on plate. In preparing digital files this should be kept in mind. For critical work it is important to use a proofing system that reflects this minimum tone reproduction characteristic.

Although developments in digital plating and engraving technologies have improved tone reproduction control in the extreme highlights (less than a 5% dot), designers should still be cautious in placing critical image components in this tonal range. This is because all-digital production cannot always guarantee precise reproduction below a 5% dot, depending on the process involved.

For film, the exposure process will determine the smallest film dot that can be effectively reproduced on plate. This is typically 2% for plates requiring negative film and 4% for plates requiring positive film. It is important to prepare input material, including proofs, with these limits in mind.

The gravure process has similar requirements. For additional information on gravure requirements see page 17.

Screen Rulings

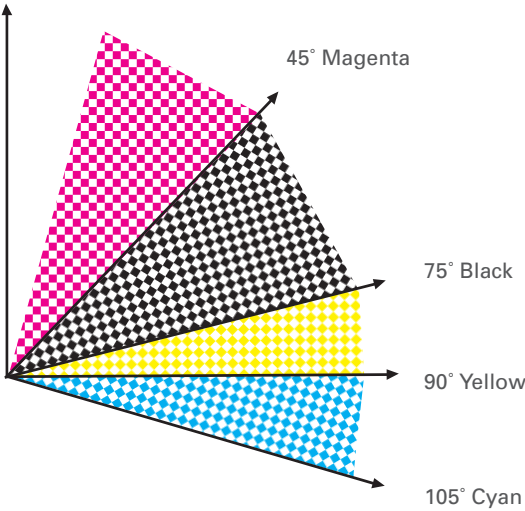
When film or analog halftone proofs are supplied the nominal screen ruling should be 133 lines per inch.

When digital files are supplied by the prepress supplier, screen rulings are no longer an issue unless supplying press or off-press proofs made with a halftone dot pattern. Screen rulings and screen angles are now typically the responsibility of the printer when digital files are accepted as input.

When digital halftone proofs are supplied by the prepress supplier, the following specifications apply:

- 133 or 150 lines per inch (52 or 60 lines per centimeter) are the recommended nominal screen rulings. Check publisher's individual requirements.
- For black-and-white reproduction check individual publisher for screen ruling requirements.

Halftone Screen Angles [Magenta at 45° Angle]



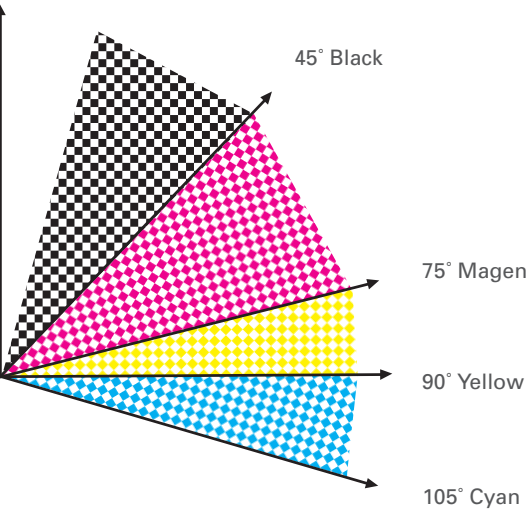
Screen Angles

Digital files sent to the publication printer should not include screening parameters and dot shape.

Whoever generates film or plates from digital files must follow the specification shown below.

The screen angles of the colors should be 30° apart, with the yellow placed 15° from the other colors and between the cyan and magenta or the cyan and black. It is permissible to place the yellow on the same angle and ruling as the cyan or, depending on the dominant colors in the picture, on the same angle and ruling as the magenta. This alignment has the advantage of spacing all the angles by 30° and eliminating the moiré that often occurs between yellow and the other colors.

Halftone Screen Angles [Black at 45° Angle - GCR]



It is desirable to have the dominant color (normally magenta) on the 45° angle. When significant Gray Component Replacement (GCR) is used, and if black becomes the dominant color, black should be printed at the 45° angle instead of magenta.

Screen angles for two-color printing should follow the same guidelines, with the black at 45°.

Screen angles and rulings should be such that no moiré pattern should appear in the film, proof or print.

If the advertiser / agency desires to specify screening requirements to the printer, it must be done with prior agreement of all parties involved. In computer-to-plate workflow the responsibility for meeting the cus-

tomer's screening requirements lies with the plate-maker / printer. The printer is responsible for reporting moiré to the publisher or advertiser/agency and to help resolve the problem.

Normally gravure printers require digital files and not film; however, if film were to be sent to a gravure printer, colors other than yellow should avoid angles between 75° and 105°.



Ad #:	Trim (flat): 16" x 10.5"	Acct. Manager:	Prefix: 44966
Caption: Tenth Edition SWOP	Bleed (flat): 16.25" x 10.75"	Art Director:	Proof: 6
Client: Agency	Live (flat):	Writer:	Date: 3/11/05
Job #: 51-SWOP	Line Screen: 150/4C	Print Producer: Ron Sheffield	Studio Artist: vh-jp
Unit: Manual	Engraver:	Traffic:	Art Producer: NA

Font: Helvetica, Univers, Serifa (AD) Electra (I)

Prepared by: PIONEER ADVERTISING • Southfield, MI 248-3541-0700



Gray Balance

Good visual gray balance, under standard viewing conditions, is essential to proper four-color printing.

In order to reproduce black, the undercolors (under black) should be in a neutral or gray balance.

It is important to coordinate and control the gray balance of the separations with the gray balance in proofing and printing. The tint values that produce gray balance in SWOP proofing are listed in the Proofing Section on page 13.

Total Area Coverage (TAC): Undercolor Removal (UCR) and Gray Component Replacement (GCR)

The total of dot percentages in any spot in the four-color file or films should be no more than 300% to minimize ink drying problems.

For some small, non-critical image areas that carry no detail, TAC may exceed 300%. TAC in these small image areas must be less than 325%.

When GCR is used in scanning, it is often important to add color back under blacks to maintain gloss and density. Recommended total area coverage as a function of black dot area percentage is shown in the table on page 31. This is accomplished by the use of Under Color Addition (UCA). Percentages of tones in film should be read with a properly calibrated transmission densitometer. When UCR

and GCR are used in profile based separations, UCA is automatically applied. In any case, high levels of GCR should be avoided.

In two-color printing, Undercolor Removal (UCR) is not usually necessary, as long as the two inks are trapping properly. It is probably advantageous that only one color be solid.

Super Calendared (SC) Papers generally require TAC in the range of 260% to 280%. For the discussion of TAC on Super Calendared (SC) paper, see page 23.

Final Material

Digital Files

Requirements

Files representing print-ready material should be exchanged only as CMYK data using the TIFF/IT-P1 or PDF/X-1a file formats or their future versions. The use of non-standard, application or native file formats is not permitted.

A SWOP proof, made from the supplied file, must be furnished to the publication printer with all supplied digital files.

The files should include all image trapping and should incorporate all of the other logical parameters specified by SWOP for film preparation (e.g., UCR/GCR, gray balance, register marks, total area coverage, etc.). However, files should not include screening parameters or dot shape. When plates or film are made by the printer directly from digital files, it is the printer's responsibility to report moiré pattern problems to the agency and publisher and to help them resolve the problems whenever possible. Multiple sets of files and proofs may be necessary with multiple insertion orders, depending on the requirements of the individual publisher.

File resolutions should conform to, or be compatible with, the publication printer's output device resolution requirements. The individual publisher should be consulted for this information.

Data compression used within files should comply with the provisions of the TIFF/IT-P1 and PDF/X-1a file format standards. Data compression applied to the complete file structure should only be used if the sender and receiver agree to the method and use of file compression. Only lossless compression should be used, defined as a method of compression that results in no (0%) data alterations to the reconstructed file. It is the sender's responsibility to ensure that the publisher and/or the printer is aware of the type of compression used and has the means to decompress the file. Other types of compression may be acceptable in the future, as PDF/X, and its future versions, gains acceptance and more implementations become viable.

SWOP recognizes the DDP User Requirement Specification regarding editability. In the event that changes need to be made, they should only be made at the direction of the agency /advertiser, with agreement of the publisher and printer.

The method of delivery and file formats to be used for exchange of electronic files should be agreed to by all participants.

In the future, digital files may be accompanied by either an electronic job ticket or ad copy instructions, potentially utilizing XML. Business information as detailed in IDEAlliance Standard 144 - 2000, such as insertion orders, space reservation and ad copy instructions may be transmitted using this framework. Information is available from IDEAlliance.

Final Film

Physical Properties

All film should be dimensionally stable and of identical thickness (0.004 inch is recommended).

The film should be supplied in one piece per color and identified by color and kind (e.g., "black positive").

Film should be hard dot. No camera or etched film is acceptable. Film produced by imagesetters is acceptable.

All opaquing should be done on the non-emulsion side of the film and should be minimal.

The clear area (Dmin) of the film should have a density of no more than 0.07.

The black area (Dmax) of the film should have a density of no less than 3.50.

Gravure publications require type to be provided on separate films.

Image Orientation

All film should be looked at as "right-reading."

Information on whether emulsion side should be "up" or "down," and whether film should be "negative" or "positive," should be obtained from the publisher.



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Client: Agency
Job #: 51-SWOP
Unit: Manual
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Bleed (flat): 16.25" x 10.75"
Live (flat):
Line Screen: 150/4C
Engraver:
Acct. Manager:
Art Director:
Writer:
Print Producer: Ron Sheffield
Traffic:
Prefix: 44966
Proof: 6
Date: 3/11/05
Studio Artist: vh-jp
Art Producer: NA

Font: Helvetica, Univers, Serifa (AD) Electra (I)
Prepared by: DDP-ADVERTISING - Southfield, MI 248-354-0700



Register Marks



Film for color ads should have four centered register marks identical in each color located approximately 1/2" outside the "live" area of the ad. Where ads are less than full page (non-bleed) it may be necessary for the printer to remove the register marks before plating. Any removal of register marks required for page form assembly is the responsibility of the printer.

Register marks should include solid lines at least 1/4" long on both axes.

The lines should be precisely the same width (thickness) in each color.

Multiple Insertions

The publisher's specified number and kind of film sets, along with the required proofs, should be supplied.

Appropriate process control elements should be used in contacting this final film to ensure that all are identical and accurate reproductions of the master files or films. Examples are the GATF Plate Control Target, UGRA/FOGRA Plate Control Wedge and the RIT Microline Resolution Target.

Appropriate process control elements should also be used in the digital output of final films to ensure that all are identical and accurate reproductions of the master files.

Proofing

The color guide should be an offset press proof made to SWOP specifications, or an off-press proof made by using only a SWOP Certified Proofing System and made according to the manufacturer's SWOP Application Data Sheet.

Proofs can change over time. They should be dated and not used if it is known that a change in appearance has occurred. (e.g., exposure to light, over time, will affect the color accuracy of a proof.)

Remote proofing, in which a proof is produced at a distant location, necessitates good communication between the parties involved, and the use of control devices that enable the output of proofs that are produced as intended.

Color Bars

To be considered a SWOP proof, all proofs must include a SWOP specified Color Control Bar, and be clearly identified with available job information and proofing system identification. The bar should contain the following control elements, whether the proof is made on press or off-press, analog or digital:



Screened areas with rulings of 133 lines per inch with values of 25%, 50% and 75% of each of the primary colors in physical proximity to a solid patch. Two-color overprints of the same 25%, 50% and 75% are also recommended. Additional areas such as 1%, 2%, 3%, 5% and 95%, 97%, 98%, 99% may be useful, especially for digital output. In the case of off-press proofs that contain no screen pattern, tones should match the above values.

A gray balance control bar or patch, in the case of off-press proofing, must be included on the proof designed to match the neutral appearance and weight, of black tints of three different values, under standard viewing conditions. The black and three-color gray balance portions of the color bar should have the following values:

Gray Balance			
Black	Cyan	Magenta	Yellow
75%	75%	63%	63%
50%	50%	40%	40%
25%	25%	17%	17%

Two-Color and Black-and-White Proofing

A press proof or off-press proof should be furnished with each black-and-white or two-color file or film set delivered.

Proof Information

The press proof or off-press proof should be accompanied by a cover sheet or label which includes the name, address and phone number of the prepress service supplier and, if possible, the name of the person or persons who should be contacted in case of a problem.

Proofs should not be stapled or otherwise damaged in any area that might interfere with the instrument reading the color bars.

All proofs should match one another and be consistent in color and tone reproduction.

Alterations

It is important for the best quality reproduction that new proofs be supplied if alterations are made to the color values of the film or digital file. For minor corrections, when time does not permit reproving, note on all proofs what changes have been made. This also applies to two-color and black-and-white ads.

Register

All finished proofs for two-color or four-color printing should be in exact register.

Variations in Color

When multiple proofs are required, they should match one another and be consistent in density, TVI and gray balance.

Press Proofing

Paper-Proofing Stock

Standard proofing paper is 60# basis weight paper of 72# (nominal) TAPPI brightness. Brightness will vary with age.

The paper may be a coated ground-wood stock or a sheet coated to simulate the appearance of such a ground-wood stock. A paper known to meet these specifications is SWOP Specified Proofing Paper, manufactured by Tembec Paper Group, and distributed by Manchester Industries (908 268 2345) and sold in sheet form by various paper merchants. Other papers meeting the technical specifications shown on page 40 may be used.

Inks

Standard Ink Colors

Proofing inks must be used that conform in color to ISO 2846-1: "Graphic technology – Specification for colour and transparency of printing ink sets – Part 1: Sheet-fed and heat-set web offset lithographic printing."

Verification Program

For availability of proofing ink samples and for information on the voluntary verification program, see the General Reference Section, page 28.

Standard Second Colors

The following standard second colors are available.

- 1. Yellow (SWOP process yellow)
- 2. Blue (SWOP process cyan)
- 3. SWOP Red equivalent to magenta/yellow solid overprint
- 4. SWOP Green equivalent to cyan/yellow solid overprint

SWOP Red and SWOP Green are equivalent to, and can be proofed as, solid overprints of magenta/yellow and cyan/yellow respectively.

Matched Colored Inks

Matched colored inks other than standard second-color inks are often used, depending on the availability of open press cylinders. Arrangements must be made with the publisher in advance in order to run matched colors.

Proofer's Color Bars

Proofs must carry a color control bar containing the elements described on page 13. It should be in register, positioned perpendicular to the direction of printing, covering the full width of the image area. Proofs made from film materials should be made using an original, hard-dot film control bar.

This color control bar should also have the following characteristics:

A repeating pattern of solids of the individual inks, and the two-color and three-color overprints as specified under Color Bars on page 13.

Target areas visually sensitive to slur, doubling and tone value increase.

The gray balance bar should cover the full width of the image area, and must be included on the proof. It has the three-color tints running parallel to, and designed to match the neutral appearance and weight, of the black tints of the three different specified values, **under standard viewing conditions**. The three color tints run parallel to, and abut, the black tints.

Film material and digital control bars as described above may be obtained from GATF. Specify: "GATF/SWOP Proofing Bar" for film and "GATF/SWOP Digital Proofing Bar" for digital output. Control bars containing the specified characteristics may also be created by the user or obtained from other sources.



Ad #: Tenth Edition SWOP
Caption: Agency
Client: Agency
Job #: 51-SWOP
Unit: Manual
Trim (flat): 16" x 10.5"
Bleed (flat): 16.25" x 10.75"
Live (flat):
Line Screen: 150/4C
Engraver:
Acct. Manager:
Art Director:
Writer:
Print Producer: Ron Sheffield
Traffic:
Prefix: 44966
Proof: 6
Date: 3/11/05
Studio Artist: vh-jp
Art Producer: NA

Font: Helvetica, Univers, Serifa (AD) Electra (I)

Prepared by: DOWNE ADVERTISING • Southfield, MI 248-3574-9700



Solid Ink Density and Color References

SWOP Specifications recommend the use of Status T densitometers for measuring process control parameters such as density, Tone Value Increase (Total Dot Gain) and Print Contrast. Solid-color verification and control can be achieved using either Status T densitometry (absolute density) or colorimetric measurement in accordance with CGATS.4 and CGATS.5 along with the proper use of the SWOP Color References.

Ink density and color in proofing should be controlled by the use of the SWOP Hi-Lo Color References.

Proofers should control ink density so that the density values on dry proofs fall between the Hi and Lo references. SWOP no longer supplies a single color reference.

The SWOP Hi-Lo Color References are printed on SWOP specified paper using SWOP proofing inks. These inks have been verified as being accurate in color by the SWOP/NAPIM Proofing Ink Verification Program. **The SWOP Hi-Lo Color References are available on a subscription basis from the International Prepress Association, 552 W. 167th Street, South Holland, IL 60473; phone: 708-596-5110.** These provide physical references for both density and color measurement. See page 39.

Color Sequence in Proofing

Press proofing should be done on a (minimum) four-color press with the ad or editorial page printing in the same direction as in the eventual press run.

The sequence of KCMY is recommended (but not specified) for SWOP press proofing. Sequence can have an affect on color balance depending on the ink’s transparency and ink trapping properties. It should be noted that SWOP Certified Press Proofs are prepared using the sequence of KCMY.

Tone Value Increase (Total Dot Gain)

In order to ensure properly balanced tone reproduction, Tone Value Increase (Total Dot Gain) at 50% from file or film to print should be:

	Target Value	Tolerance (± 3%)
Yellow	18%	15-21%
Magenta	20%	17-23%
Cyan	20%	17-23%
Black	22%	19-25%

In order to help obtain proper gray balance, included in this specification is the restriction that gain values of the three colors (Y, M, C) should not differ from each other by more than 4% from their target values. For example: if either cyan or magenta is +2% (22%) in Tone Value Increase, yellow deviation should not be greater than -2% (16%).

	Target Value	Example	From Target
Yellow	18%	16%	-2%
Magenta	20%	20%	0%
Cyan	20%	22%	+2%

Another way to explain this specification is: after adding two percentage points to the measured yellow Tone Value, process colors (Y, M, C) should not differ by more than four percentage points.

Print Contrast

Print Contrast is an important characteristic in printing and proofing and should be controlled in order to better define the entire tone curve.

Control of Print Contrast at the 75% tone value is a specification for proofing and must be maintained.

Print Contrast specifications at the 75% tone value are based on data obtained from several Certified Press runs are as follows:

Color	Center Point and Range
Yellow	25 ± 5%
Magenta & Cyan	35 ± 5%
Black	38 ± 5%

Adherence to both the lower and upper tolerance levels is important because deviation from either would indicate problems with the highlight or shadow portions of the tone scale.

See page 42 for information about calculating Print Contrast.

Off-Press Proofing

SWOP specifies the use of **ONLY those off-press proofing systems which have been Certified by SWOP.**

Directions for producing proofs from these systems are contained in the manufacturer’s Application Data Sheets (ADS).

These ADS’s are available on the SWOP Web site at www.swop.org under the links “SWOP Certification” and “Certified Application Data Sheets.” **The proofing system operator is responsible for following the appropriate SWOP Application Data Sheet (ADS), and verifying conformance by measurement of the appropriate color bar to the specific ADS values.**

SWOP Off-Press Proofing Certification Program

For many years, representatives of the major off-press proofing manufacturers have known and demonstrated that their proofing systems could match one another and could come close to matching a SWOP Certified Press Proof. Problems in the industry stemmed from both vendors and users misusing or changing the results of the proofs based on their own biases and applications.

In 1996, at the request of the major proofing manufacturers, the SWOP Technical Committee convened the Off-Press Proofing Task Force to look into a way that SWOP might “certify” the systems for the use of their customers. That Certification program is now in place. See SWOP Certification

on page 43 in the General Reference Section and the SWOP web-site for up to date information.

Control Bar

All off-press proofs should include a color bar containing the elements as specified in **Color Bars** under Proofing on page 13. This color bar could take the form of a manufacturer’s color control guide, a IDEAlliance /GATF Proof Comparator, or a GATF/ SWOP Proofing Bar or their digital equivalents. An exposure control element may also be included where appropriate. Proofs that do not contain the appropriate control bar are not acceptable as SWOP proofs!

Digital Color Proofing

As with other off-press proofs, the specification is that the appearance of a digital off-press proof used in this application must closely simulate SWOP press proofing.

Only SWOP Certified Systems should be used.

Analog Off-Press Proofing

Only SWOP Certified systems should be used and the SWOP Calibration Kit should be used for the verification of off-press proofing systems. The manufacturer’s ADS should be followed in the making of these proofs.





Remote Proofing

Proofing must be done with SWOP Certified Proofing systems. The manufacturer's ADS should be followed in the making of these proofs.

If remote proofing is used, those making the exchange must reach a detailed agreement for coordination, calibrating, and controlling proofing systems at both locations.

This may entail independent color management techniques to ensure that the proofs produced will simulate the appearance of SWOP proofs regardless of the device and materials used in the remote location. When color management is employed, the characterization data in ANSI CGATS TR 001 (Color characterization data for Type1 printing) (or its future updates or replacements) may be used as a guide or reference. ANSI/CGATS TR 001 documents the colorimetric characterization of the CMYK to CIELAB relationship obtained from a press proof run to the center point of SWOP Specifications.

Verification/Conformance/Tolerances

If the user is unable to verify conformance to the manufacturer's ADS or there is an obvious mismatch to a SWOP Certified Press Proof, the manufacturer should be contacted for corrective action.

Actual off-press proofs, made using a SWOP Calibration Kit, analog or digital, containing a SWOP approved control bar may be sent by users to the SWOP Color Laboratory for verification. Information on how to obtain a SWOP Calibration Kit can be found on the SWOP Web site at www.swop.org.

Submitted proofs will be compared visually and instrumentally for SWOP conformance to data contained in the manufacturer's Application Data Sheet (see sample on page 49) and a report will be generated. A fee will be charged for measurement, analysis and reports issued.

GAA Input Specifications for Publication Gravure

GAA input specifications for publication gravure digital files are virtually identical to the SWOP specifications outlined in this booklet. Today, many publications successfully utilize both printing processes in the production of their magazines. Advertisers who place ads in these publications expect both processes to match their supplied SWOP proof.

Below are a few areas where the GAA feels that additional information may be useful in helping suppliers prepare input for gravure publications.

Digital Files

Digital files are the preferred input for gravure printers. Supplied film separations must now be pre-approved by the publisher and gravure printers involved, and may result in additional processing charges to the supplier.

The GAA recommends the exchange of digital information using either TIFF/IT - P1 (ISO 12639) or PDF/X-1a (15930-4).

Printing Stocks

There is one significant difference between GAA and SWOP specifications that users should be aware of. Gravure printing is capable of achieving the SWOP color gamut on both coated and some uncoated stocks. Therefore, the GAA Input Specifications for Publication Gravure apply to both coated and uncoated printing stocks. The degree to which the final gravure printed reproduction result matches

the brightness, print smoothness and gloss of the color guide will be determined by the printing stock of the publication.

Colors

Gravure standard colors match SWOP colors, and are referred to as GAA/SWOP. The standard reference for these colors is the SWOP Hi-Lo Color References. Colorimetric data for these references is available through the GAA at no cost (GAA Colorimetric Specification for Publication Proofing and Printing–Revision 1.6 1992).

Screen Angles

Screen angles and dot shapes should not be included in the supplied page file. With gravure printing, dot shapes and screen angles are controlled and limited by the engraving device and, therefore, cannot match the screening of a supplied file. It is the gravure printer's responsibility to resolve moiré pattern problems that occur during the engraving process or to notify the publisher if pattern problems of any kind cannot be resolved. The publisher, prepress supplier, and ad agency are responsible for resolving problems from input materials that cause or contribute to moiré and other undesirable patterns that cannot be corrected by the printer.

Total Area Coverage (TAC)

The GAA endorses the 300% TAC requirement as specified by SWOP for web offset printing. However, 300% TAC is not a limiting factor for gravure printing and on uncoated stocks higher TAC may be preferred by some publishers.

Gray Component Replacement (GCR) and Undercolor Addition (UCA)

Due to the reduced opacity and increased porosity of uncoated stocks, GCR applications may not be suitable for all users of uncoated stocks. Therefore, the use of GCR on uncoated stocks is a matter to be resolved and pre-approved by all parties involved. For the minimum three-color UCA relationships, see the table on page 31.

As in offset preparation, the three-color balance (cyan, magenta, yellow) remaining under black or dark gray areas after GCR is applied must result in a visually neutral gray color.

Note: Although GCR can help in moderating unwanted color variation, it can, if used to excess, limit options for editorial color changes in prepress or interfere with color adjustments for precise match on press. It can also result in deep shadow and black areas that have insufficient gloss, lost detail or unwanted reversals. Experience has shown that GCR levels up to 60%, if done properly, can generally give problem free results. At GCR levels significantly above 60% it is recommended that both prepress supplier and print buyer use caution and perform testing as appropriate.

Critical Image Areas

Critical Image Areas are colors/images that are important to the message of the advertisement, such as edges of images and light background patterns intended to be distinguishable from the printing stock. Present gravure engraving processes can be susceptible to inconsistencies in the extreme highlight areas (<5% tone). Therefore, it is important to use caution when placing critical image detail in this tonal range. To ensure good tonal reproduction minimum tone values should be 3% or more when it is known that gravure will be the printing process.

Type and Line Art

When supplying film, reverse type, surprint type and line art should be supplied as separate films. This will allow gravure printers some flexibility in providing the very best type reproduction possible.

More complete information on The GAA Input Specifications for Publication Gravure is available from The Gravure Association of America, 1200-A Scottsville Road, Rochester, NY 14624. Telephone: 585-436-2150; Fax: 585-436-7689. E-mail: gaa@gaa.org.



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Caption:	Agency	Bleed (flat): 16.25" x 10.75"	Art Director:	Proof: 6
Client:	Agency	Live (flat):	Writer:	Date: 3/11/05
Job #:	51-SWOP	Line Screen: 150/4C	Print Producer:	Studio Artist: vh-jp
Unit:	Manual	Engraver:	Traffic:	Art Producer: NA

Printed by: POWER ADVERTISING • Southfield, MI 248-3541-0700