Autobag®

A PRODUCT OF AUTOMATED PACKAGING SYSTEMS

NOW PART OF **Sealed Air**®

ART GUIDELINES MANUAL

WELCOME TO
AUTOMATED PACKAGING SYSTEMS

The purpose of this manual is to help you understand the requirements to produce artwork that becomes the high quality printing that we are proud of here at Automated Packaging Systems.

Our best resource is our people. The Prepress Group at Automated Packaging Systems is staffed with FTA (Flexographic Technical Association) FIRST Certified Prepress Operators with many years of experience. Many of our Printing Department staff and managers are also certified as FIRST Press Operators and Implementation Specialists.

Good art is essential for high quality printing in flexography. It should not only anticipate potential advantages of flexography, but also the inherent limitations of the flexographic process. A high majority of arts that are supplied by customers have to be reviewed and adjusted by an artist in the Art Department. Although art is often received in a usable form, it is usually not optimized for flexographic printing or did not take into account manufacturing requirements. It is critical at the beginning to prepare artwork with all the allowable tolerances and to use the best elements, because the print job will never be better than the art.

Artwork for Flexographic printing is different from art designed for offset or lithographic printing. Flexography is defined as "a method of direct rotary printing using resilient, raised image printing plates, affixed to variable repeat plate cylinders, inked by a roll or doctor blade wiped engraved metal roll, carrying fluid or paste type inks to virtually any substrate". The primary substrate that we print on is a stretchable form of Polyethylene. There are many factors that must be considered before the finished art can be printed. Automated Packaging System's Pre-Press Group is highly qualified to work with you to enhance or help design your artwork to print at the highest quality.

ABOUT OUR SYSTEM

We are fully equipped to review your your design, make suggestions, create digital files or take your Mac files and put the finishing touches on them in preparation for flexo printing and will be glad to get you started by making you a template of the bag size you need that will show you the available art area. Please call the number below, send us an email or contact your Automated Packaging Systems sales representative for further details.

Once your art is ready, please provide all mac files and a PDF of your Art. Also include all supporting files (jpgs, tifs, eps, psd, etc. as well as all fonts). Not supplying these items could lead to delays in producing your art.

Email can used to receive most types of files (under 10MB) and to send pdf proofs that don't require a color ink swatch to be approved by the customer. If the art files will be emailed or placed on the ftp site, please send a pdf for comparison and QA purposes. If you will be sending the files on a disk, a full size color print would also be appreciated.

The Macintosh applications we use are:

| Adobe ILLUSTRATOR | Adobe PHOTOSHOP | Adobe INDESIGN | Adobe ACROBAT | ARTPRO |

Contact and FTP info:

Art Department email: artdept@sealedair.com
Address: 13555 McCracken Road, Garfield Heights, OH 44125, USA
Phone: 1.330.528.2462

FTP site: ftp.autobag.com   user: artftp   password: art$tuff
(If you are uploading to the ftp site, please send the art dept. a notification email.)
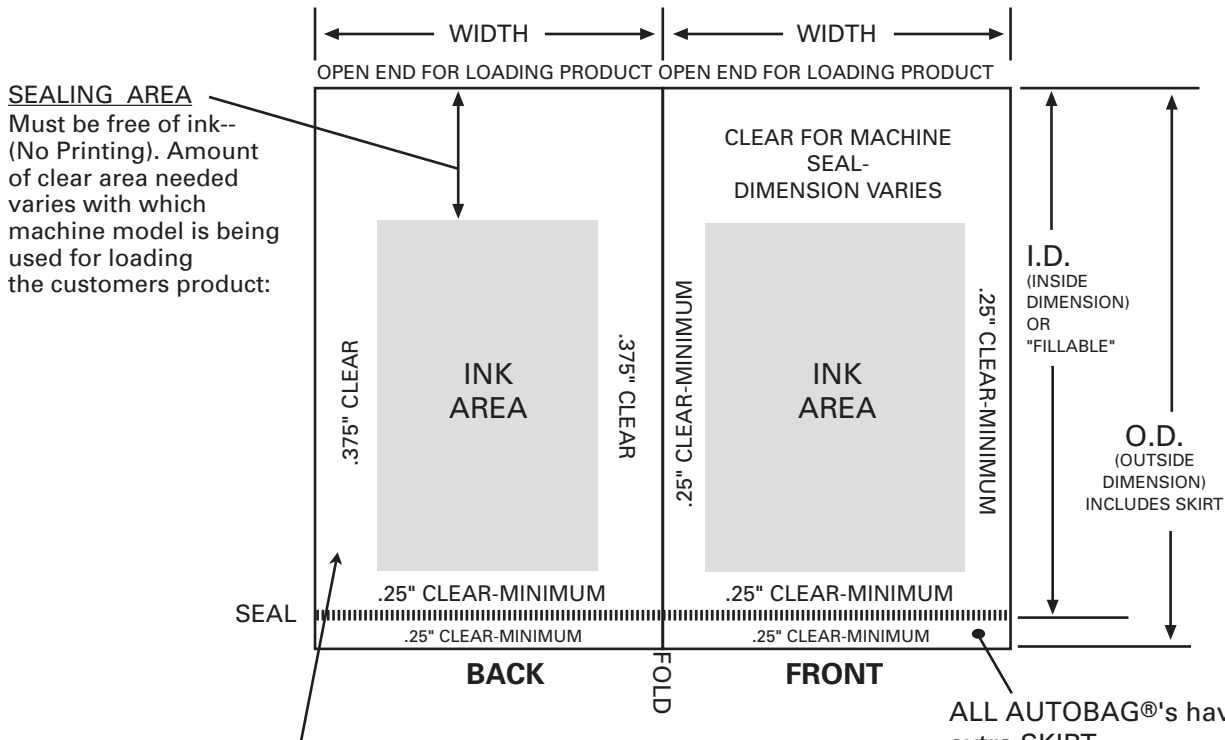
We print spot color tints and process print at various line screens (mostly 110 for spot colors and 133 for process). Our presses require us to print screen angles 8 degrees off of standard LITHOGRAPHIC angles. All 4-color process and complex arts must first be reviewed by the Customer Service Pre-Art Team. All new process print art will have tifs and plates created using HD, 4000 ppi for sharper images and dots on the plate

The following pages provide a guideline for layout, size, color traps, etc. This is only a guideline. If you already have graphics available, we are fully staffed to make those adjustments digitally although some additional charges may apply.

By referring to this guide, you will save valuable time in getting your art to press and ultimately bags to your facility.

GRAPHICS LAYOUT

We've shown the layout as if both front and back of the bag are printed. You do not have to print both sides of the bag. If you are only printing one side of the bag, use the FRONT diagram for size and layout.

WIDTH · WIDTH

OPEN END FOR LOADING PRODUCT · OPEN END FOR LOADING PRODUCT

SEALING AREA
Must be free of ink-- (No Printing). Amount of clear area needed varies with which machine model is being used for loading the customers product:

CLEAR FOR MACHINE SEAL- DIMENSION VARIES

.375" CLEAR

.375" CLEAR

.25" CLEAR-MINIMUM

.25" CLEAR-MINIMUM

INK AREA

INK AREA

I.D. (INSIDE DIMENSION) OR "FILLABLE"

O.D. (OUTSIDE DIMENSION) INCLUDES SKIRT

SEAL

.25" CLEAR-MINIMUM

.25" CLEAR-MINIMUM

.25" CLEAR-MINIMUM

.25" CLEAR-MINIMUM

BACK · FOLD · **FRONT**

ALL AUTOBAG®'s have this extra SKIRT.
The standard size is .25"

By making the back artwork narrower than the front artwork (using 3/8" Clear Area Margins), any small variations in folding during the construction of the bag will be less noticeable. (If the art widths were the same size the back art would show through the front in the clear areas). This only applies to bags made of clear poly.

BACKGROUND colors (not text or graphic images) can bleed EVENLY off the sides.

GENERAL RULE OF THUMB:

All bags are printed multiple images across the Press Web.

Any graphics that bleed off the right side of a bag can end up on the left side of the next bag because plates are stepped across and the bag sizes have +/- tolerances.

Standard INK AREA

Standard INK AREA
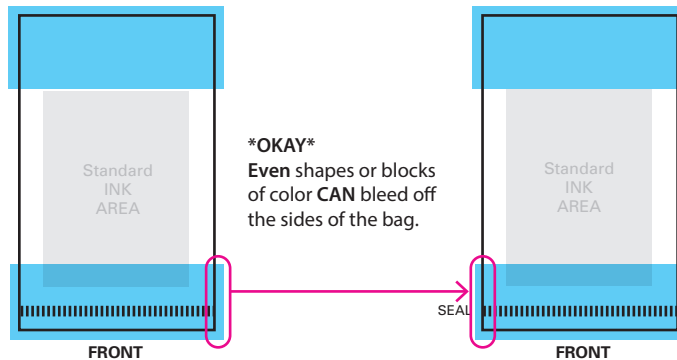
OKAY
Even shapes or blocks of color **CAN** bleed off the sides of the bag.

SEAL

FRONT

FRONT

Wraparound print: background colors bleed off the SIDES ONLY;

Autografix print: Special inks are used and background colors can bleed off the sides AND through the Manufacturing seal.

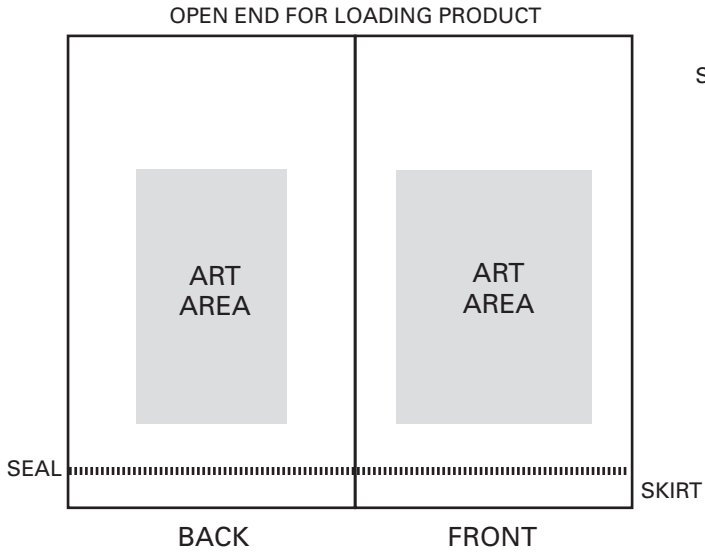** Only line print (Solid Ink) can bleed - no screen tints, gradations or Process print.

You can have screen/process ink used in design, but those ink types must be kept .25" away from all seals.
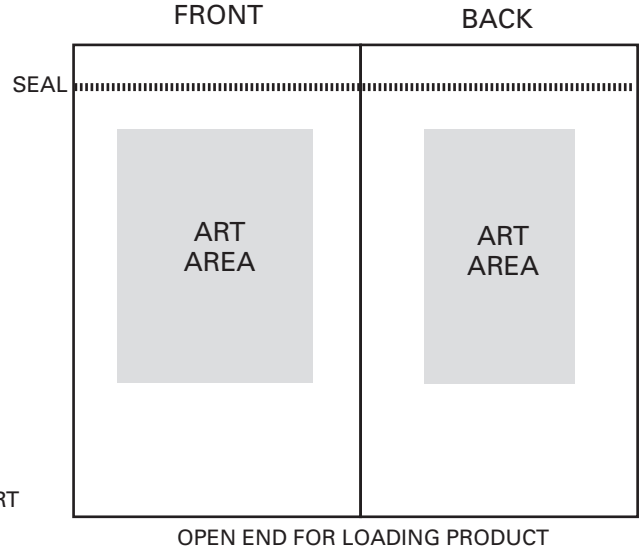
Standard INK AREA

Standard INK AREA
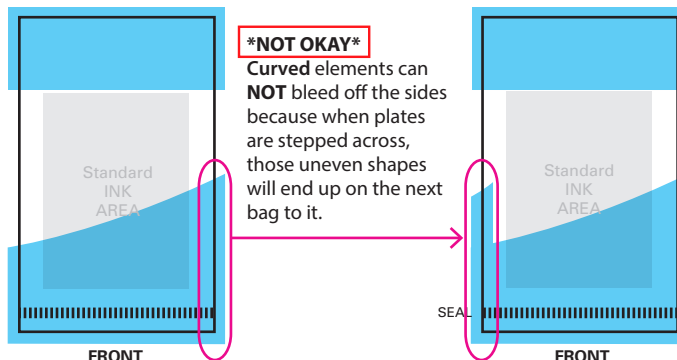
NOT OKAY
Curved elements can **NOT** bleed off the sides because when plates are stepped across, those uneven shapes will end up on the next bag to it.
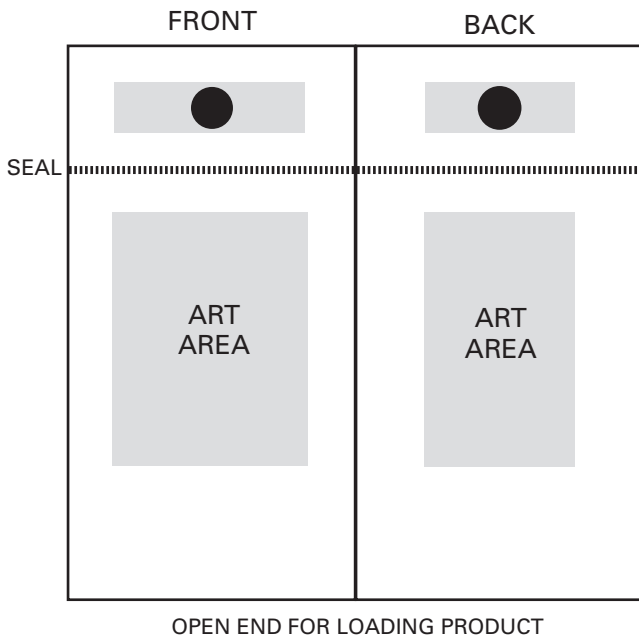
SEAL

FRONT

FRONT

LOAD SPECIFICATIONS
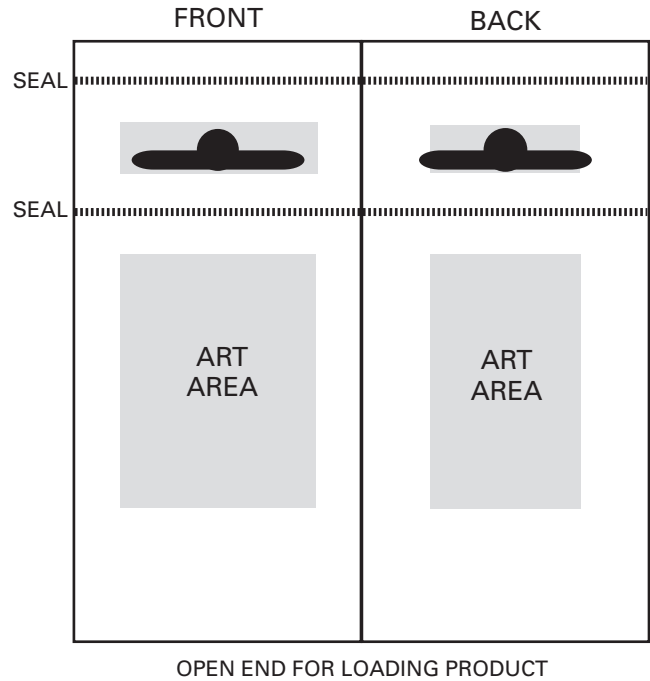
TOP LOAD -- STANDARD

OPEN END FOR LOADING PRODUCT

ART
AREA

ART
AREA

SEAL

BACK   FRONT   SKIRT

BOTTOM LOAD -- STANDARD

FRONT   BACK

SEAL

ART
AREA

ART
AREA

OPEN END FOR LOADING PRODUCT

BOTTOM LOAD --
WITH A LONGER SKIRT AND
HANGER HOLE

FRONT   BACK

SEAL

ART
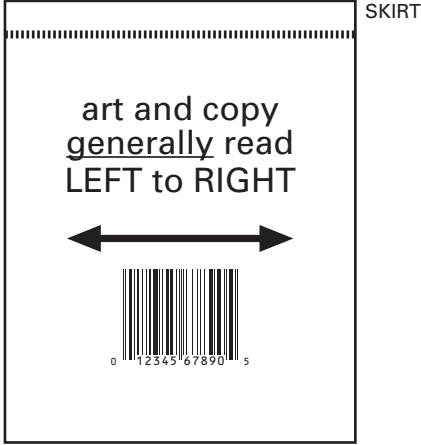AREA

ART
AREA

OPEN END FOR LOADING PRODUCT
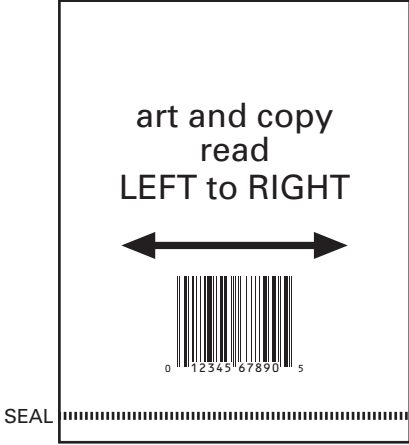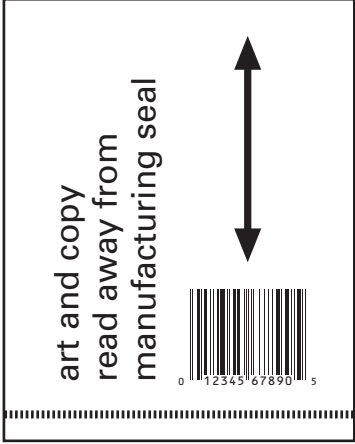
BOTTOM LOAD --
WITH A HEADER (TWO SEALS)
AND BUTTERFLY HANGER HOLE

FRONT   BACK

SEAL

SEAL

ART
AREA

ART
AREA

OPEN END FOR LOADING PRODUCT

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PRINT DIRECTION

The art can print in any direction on the bags. The only exception to this is the barcode. We use **"CHART"** to indicate print direction which relates to art direction relative to the manufacturing seal and open end of the bag. Note barcode orientation has the bars printing vertical like a "picket fence" and not like a "ladder". This is industry standard for Flexo printing. More barcode and 2D code information on the next page. See Chart examples below:

CHART "1" - Seal is at top of bag. Customer loads product at **BOTTOM**. A skirt or header can be added to top of bag.

SKIRT

art and copy
generally read
LEFT to RIGHT

⟷

0 12345 67890 5

CHART "2" - Seal is at bottom of bag . Customer loads product from **TOP**.

art and copy
read
LEFT to RIGHT

⟷

0 12345 67890 5

SEAL

CHART "3" - Seal is at bottom of bag. Customer loads product from **LEFT** side.

art and copy
read towards
manufacturing seal

↕

0 12345 67890 5

CHART "4" - Seal is at bottom of bag . Customer loads product from **RIGHT** side.

art and copy
read away from
manufacturing seal

↕

0 12345 67890 5

BARCODE SPECIFICATIONS

Below you will find Automated Packaging Systems Flexographic specifications for making barcodes for printing and scanning. We have the software to create ALL codes in our Macintosh system but we need to know what kind of code (UPC, 3 of 9, Int. 2 of 5, code 128, etc.).

If the barcode is printing on clear material, it will require a white block underneath so the code will scan. Other scenarios where a white is required for scanability could include, but are not limited to barcodes printing on any other colored material but white. Most importantly, a high contrast between the barcode color and its background is essential for scanning. Two whites are required if the white print is an Autografix white ink.

The Art Department has a list of PMS colors and their reflectance values that help determine if the barcodes will scan when using certain Pantone colors. Generally, colors with high amounts of red will not scan.

Quiet zones are clear areas around bar codes that serve to isolate it from surrounding text and graphics. Bar code symbologies typically define a minimum amount of clear space that is to serve as the quiet zone. Industry standard recommends .25″ quiet zone on each side of the code.

**If you are a *Medical* customer and *must* create your own code, please contact us for current bar width reduction and size minimums.

Below are examples of the more common code types and our specifcations used to create those codes:

ALL BARCODES and 2D CODES REQUIRE
A 1 MIL BAR WIDTH REDUCTION (BWR)

Barcode	Specification
.25″ *+H16O434106111O* .25″	**Code 128** No more than 18.0 CPI (characters per inch), Min .5" high bars, No less than .0101 narrow bar
.25″ 0123456789 .25″	**Code 39** No more than 6.8 CPI, Min. .5" high bars, No less than .0117 narrow bar and 2.4 ratio
.25″ 0123456789 .25″	**Int. 2 of 5** No more than 6.8 CPI, Min. .5" high bars, No less than .0120 narrow bar and 2.4 ratio
.25″ 0 12345 67890 5 .25″	**UPC / EAN** No less than 90% magnification, Min .5" high bars
2D codes (GS1 Datamatrix, Datamatrix, QR, etc.) .125″ .125″	1 MIL Bar Width Reduction (BWR) No less than .018 cell size

COLOR

MATCHING
• We have the ability to match Pantone Matching System (PMS) colors.
• We can also custom match a sample supplied by the customer.
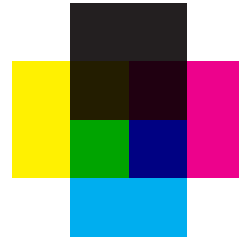
PRINTING COMBINATIONS
• Maximum Ten stations on press.
• Varnish overprint requires one station.
• Target recognition requires one station (if required).

PRINTING SEQUENCES
Color laydown is from lightest to darkest. (Unless it's revers print for lamination)
Example:
1) White
2) Yellow
3) Blue
4) Black
5) Varnish (optional, only if product requires.)

OPACITY
• Inks are basically transparent.
• Use metallic inks or dark colors for greatest opacity.
• Colors are enhanced when printed over white, but still may be transparent.

GRAPHICS REVIEW
Ink Bleeds, Screens, Process print should all be reviewed by our Customer Service Pre-Art Team and press department.
Some ink bleeds will require Etched press cylinders which can be costly and greatly increase lead times.
Some inks do not screen well, we do not screen White or Metallic inks.

TRAPPING

• Holding lines should be 1-1/2 (1.5) point size minimum for registration.
• Adjoining colors must overlap by at least 1/64" (.0156") although 1/32" (.0312") is preferred. All trapping will be handled by our imaging department software.
• One metallic color cannot be printed over another metallic color.
• Color Traps (examples):
  – Light Blue over yellow produces green trap
  – Blue over red produces dark blue trap
  – Green over orange produces dark green trap
  – Pink over yellow produces red trap

Trap   Trap

TYPE AND LINE WEIGHT SPECS FOR READABILITY AND QUALITY PRINT

See following pages

- Minimum **positive** type is 5 point **Sans Serif.**
- Minimum **reverse** type is 6 point **Bold Sans Serif.** For reverse print, the
  bolder the style, the better the reproduction.
- Minimum positive line gauge is 1 point.
- Minimum reverse line gauge is 1-1/2 (1.5) points.
- Thin positive lines and type may print broken or wavy and may be unreadable.
- Thin reverse lines and type will fill in and may be unreadable.

*Metallic ink **minimum type sizes are: 12 point Positive and 14 point Reverse.**
We may also suggest a larger size depending on typeface selection (serif vs san serif).

TOTAL PLATE COSTS

(includes art, Imaging and plate department's, labor and material)

- Artwork **will not** be worked on until a Purchase Order is received. All new and revised arts will be quoted automatically.
- Customers are billed for the first set of plates only, but not until art is approved.
- If a customer makes changes to an existing design, they are billed for only
  the plates that change.
- When plates wear out, APS will replace them at no cost to the customer as long
  as no changes are needed. **NOTE: Buyer's artwork, drawings and/or blueprints
  ("Artwork") will be destroyed in the event that no bag orders with that artwork
  are placed by Buyer for a period of four years.**
- APS will not run other plates other than our own on our presses. Our presses are
  tested and set-up to run our specific type of plate material and thickness.
- Final art and plates are stored on site for reruns.

APPROVAL OF ARTWORK

- All new and revised art will be proofed to customer prior to scheduling of order.
- Proof formats:
  – Pdfs can be emailed to speed up approval process, but can only be used if a hard
    copy proof is not required or color swatches do not have to be approved.
  – Fax copy (revisions and simple new art)
  – Digital Black & white or color paper proofs (new artwork)
  – Color proofs on polyethylene substrate (some limitations)
  – Digital color match proofs (Process print or color critical arts)
  – Bag mock-ups
- Solid color samples of the actual Inks on Poly are provided for color approval.
- Any revision requires written approval.
- **Production of your order cannot begin until we receive your signed approval.**
  (if a waiver is necessary for you artwork, we will require the signed waiver to be
returned before proceeding)
- If you art has a pre-printed barcode we ask that you return the barcode approval as well.

Minimum **Positive Type** Spec is **5 point** Regular Sans Serif**
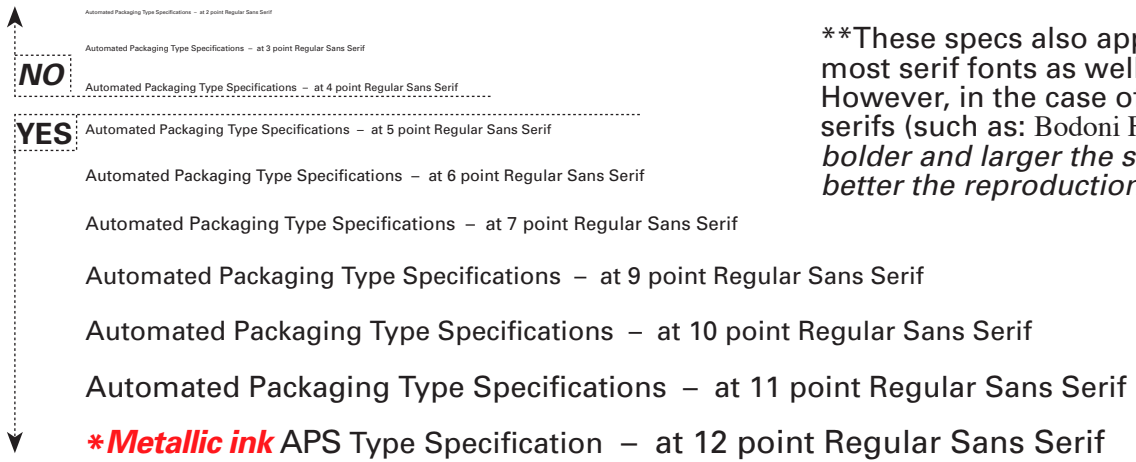
These specs also apply to most serif fonts as well. However, in the case of thin serifs (such as: Bodoni Fonts), *the bolder and larger the style, the better the reproduction.*

NO

Automated Packaging Type Specifications – at 2 point Regular Sans Serif

Automated Packaging Type Specifications – at 3 point Regular Sans Serif

Automated Packaging Type Specifications – at 4 point Regular Sans Serif

YES

Automated Packaging Type Specifications – at 5 point Regular Sans Serif
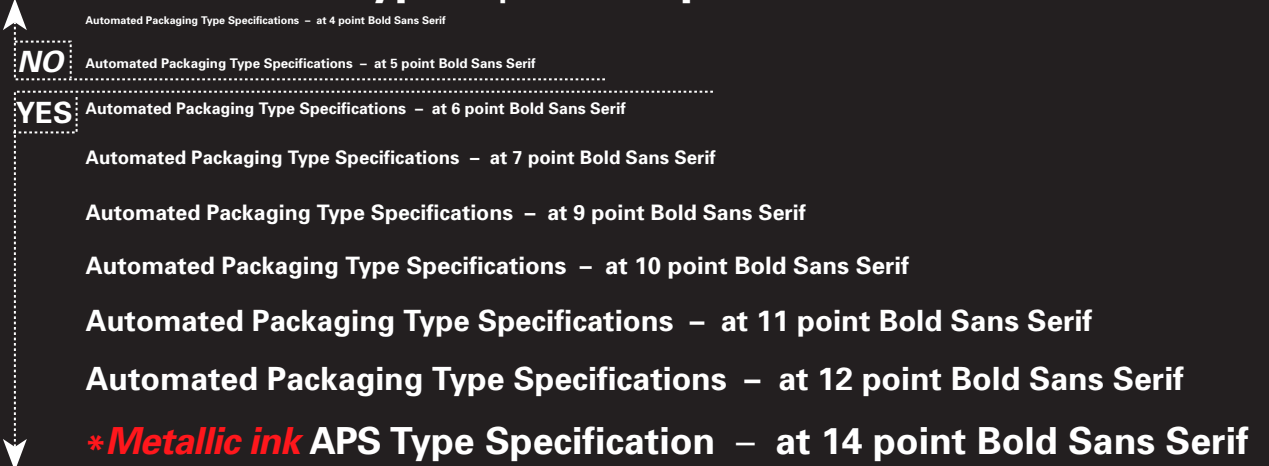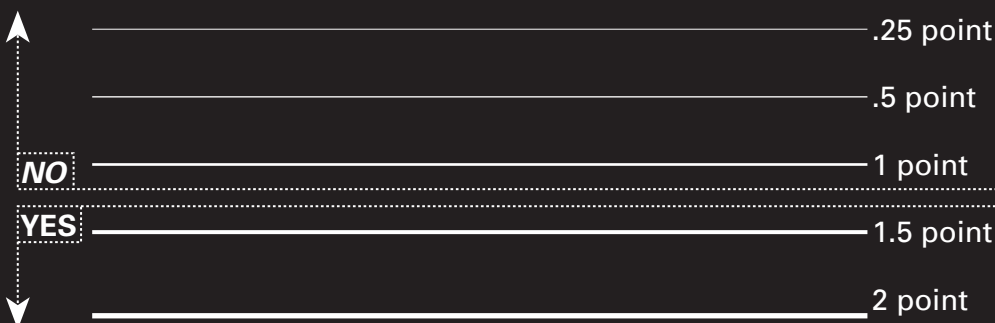
Automated Packaging Type Specifications – at 6 point Regular Sans Serif

Automated Packaging Type Specifications – at 7 point Regular Sans Serif

Automated Packaging Type Specifications – at 9 point Regular Sans Serif

Automated Packaging Type Specifications – at 10 point Regular Sans Serif

Automated Packaging Type Specifications – at 11 point Regular Sans Serif

*Metallic ink APS Type Specification – at 12 point Regular Sans Serif

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Minimum **Positive line** weight Spec is **1 point**.

— .25 point

NO

— .5 point

YES

— 1 point
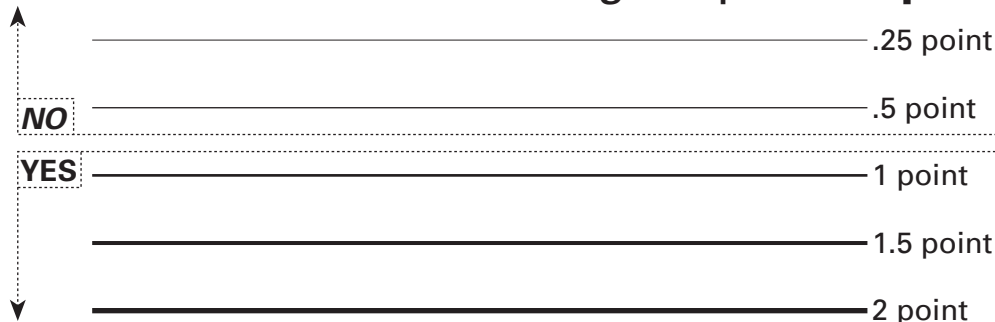
— 1.5 point

— 2 point

Minimum **Reverse Type** Spec is **6 point Bold Sans Serif**

NO

Automated Packaging Type Specifications – at 4 point Bold Sans Serif

Automated Packaging Type Specifications – at 5 point Bold Sans Serif

YES

Automated Packaging Type Specifications – at 6 point Bold Sans Serif

Automated Packaging Type Specifications – at 7 point Bold Sans Serif

Automated Packaging Type Specifications – at 9 point Bold Sans Serif

Automated Packaging Type Specifications – at 10 point Bold Sans Serif

Automated Packaging Type Specifications – at 11 point Bold Sans Serif

Automated Packaging Type Specifications – at 12 point Bold Sans Serif

*Metallic ink APS Type Specification – at 14 point Bold Sans Serif

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Minimum **Reverse line** weight Spec is **1.5 points**.

— .25 point

— .5 point

NO

— 1 point

YES

— 1.5 point

— 2 point

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Japanese and Chinese type minimum sizes
日本和中国式最小尺寸
日本語と中国語の入力の最小サイズ

Minimum **Positive Type** Spec is **8 point** Regular**

自动包装类型规格 -4点正 (Chinese Simplified)
自動化されたパッケージの仕様を入力します-4ポイントで定期的に (Japanese)
(Automated Packaging Type Specifications – at 4 point Regular)

自动包装类型规格 -5点正 (Chinese Simplified)
自動化されたパッケージの仕様を入力します-5ポイントで定期的に (Japanese)
(Automated Packaging Type Specifications – at 5 point Regular)

自动包装类型规格 -6点正 (Chinese Simplified)
自動化されたパッケージの仕様を入力します-6ポイントで定期的に (Japanese)
(Automated Packaging Type Specifications – at 6 point Regular)

自动包装类型规格 -7点正 (Chinese Simplified)
自動化されたパッケージの仕様を入力します-7ポイントで定期的に (Japanese)
NO (Automated Packaging Type Specifications – at 7 point Regular)

YES 自动包装类型规格 -8点正 (Chinese Simplified)
自動化されたパッケージの仕様を入力します-8ポイントで定期的に (Japanese)
(Automated Packaging Type Specifications – at 8 point Regular)

自动包装类型规格 -9点正 (Chinese Simplified)
自動化されたパッケージの仕様を入力します-9ポイントで定期的に (Japanese)
(Automated Packaging Type Specifications – at 9 point Regular)

自动包装类型规格 -10点正 (Chinese Simplified)
自動化されたパッケージの仕様を入力します-10ポイントで定期的に (Japanese)
(Automated Packaging Type Specifications – at 10 point Regular)

自动包装类型规格 -11点正 (Chinese Simplified)
自動化されたパッケージの仕様を入力します-11ポイントで定期的に (Japanese)
(Automated Packaging Type Specifications – at 11 point Regular)

We can print as small as 6 point positive type if **only the Japanese or Chinese text is on it's own plate separate from all the other art.

Please note that this page is only a sample of the type and size. It does not truly reflect how the type will actually **print** on our presses.

Minimum **Reverse Type** Spec is **8 point Bold**

自动包装类型规格 -4点粗体 (Chinese Simplified)
自動化されたパッケージの仕様を入力します-4ポイントの太字で (Japanese)
(Automated Packaging Type Specifications – at 4 point Bold)

自动包装类型规格 -5点粗体 (Chinese Simplified)
自動化されたパッケージの仕様を入力します-5ポイントの太字で (Japanese)
(Automated Packaging Type Specifications – at 5 point Bold)

自动包装类型规格 -6点粗体 (Chinese Simplified)
自動化されたパッケージの仕様を入力します-6ポイントの太字で (Japanese)
(Automated Packaging Type Specifications – at 6 point Bold)

自动包装类型规格 -7点粗体 (Chinese Simplified)
自動化されたパッケージの仕様を入力します-7ポイントの太字で (Japanese)
NO (Automated Packaging Type Specifications – at 7 point Bold)

YES 自动包装类型规格 -8点粗体 (Chinese Simplified)
自動化されたパッケージの仕様を入力します-8ポイントの太字で (Japanese)
(Automated Packaging Type Specifications – at 8 point Bold)

自动包装类型规格 -9点粗体 (Chinese Simplified)
自動化されたパッケージの仕様を入力します-9ポイントの太字で (Japanese)
(Automated Packaging Type Specifications – at 9 point Bold)

自动包装类型规格 -10点粗体 (Chinese Simplified)
自動化されたパッケージの仕様を入力します-10ポイントの太字で (Japanese)
(Automated Packaging Type Specifications – at 10 point Bold)

自动包装类型规格 -11点粗体 (Chinese Simplified)
自動化されたパッケージの仕様を入力します-11ポイントの太字で (Japanese)
(Automated Packaging Type Specifications – at 11 point Bold)

FEATURES AND TOLERANCES

PERFORATIONS

VERTICAL PERF (VEP)
– Runs parallel to side seal
– Easiest to manufacture; Least expensive

HORIZONTAL PERF (HEP)
– Runs parallel to manufactured seal
– Slower to manufacture; More expensive

PARTIAL PERF (PHP)
– A horizontal perf that does not extend all the way accross the bag
– Specify length of perf

HORIZONTAL SEALED PERF (HSP)
– Sealed 'Cell' encloses along mfg. seal easy opening without contents contamination
– Specify length of perf

HOLES AND PUNCHES

AIR RELIEF HOLES:
PERFED (PRFD) OR THROUGH (AIR)
– 1/4" Standard
– Allows air to escape for flatter pkg.
– Avoid open end

ROUND HANGER HOLES (HGR)
–1/4" to 2" (1/4" Standard)
–Centered in header if position not specified
–Larger holes serve as door knob/hangers

BUTTERFLY HANGER HOLE (BTR)
–Retail use
–1" or 1 1/4" width

TRIANGLE HANGER HOLE (TRI)
–Retail use
–5/8" or 1" wide

BAG SIZES:

All bag sizes may vary +/- 1/8" in width and +/- 3/16" in length.

SPECIAL FEATURES

All special features can vary +/- 1/4" vertically and +/- 1/8" horizontally. This includes hanger holes, air holes and perforations.

PRINTED GRAPHICS:

All colors that touch will have a standard 1/32" overlap or "trap" to allow for proper registration. This can create a discoloration with certain color combinations.
Art can move +/- 1/8" horizontally and +/- 3/16" vertically. **Warning: it is possible for the art to float within tolerance and the feature to float within tolerance to the point where the tolerances overlap and cause some art to be unreadable, punched out, etc.**

VARNISH OVERPRINT:

Printed bags are subjected to many abrasive forces during printing, converting, shipping, and the end use. Our printed bags have been tested and pass the industry expectations which are: Surface Print Film: 100 rub cycles, 4-lb. Block, print to film. If you have need of additional protection, a varnish overprint may be required.

REGISTRATION:

Print REGISTRATION is +/- 1/32" for LINE print and +/- 1/64" for PROCESS print. Whites are undercut 1/16" where applicable.

MICRODOTS: These are very small squares (only .009 in.⊙) that are added to each color for registration. They are usually trimmed off during Conversion, but sometimes they do end up on the finished bag.

CLEAR AREAS:

A minimum 1/4" clear area is required between the print area and the factory seal,
A minimum 1/4" clear area is required between the print area and the side seals and header seals.
PRINT CANNOT GO ALL THE WAY TO THE SEALS UNLESS IT IS AUTOGRAFIX PRINT. Autografix plate break is .375" +/- .25" based on cylinder availability. Wrap-around print allows us to extend the print through the sides seals only – a clear area is still required by the factory seal and open end of the bag based on machine clear sealing areas below.

CLEAR SEALING AREAS:

Each piece of equipment has its own requirement for clear (No Print) sealing area at the open end of the bag.
The following equipment requires a **1" clear sealing area**: PaceSetter HB-25, HB-55 & HB-65
The following equipment requires a **1.25" clear sealing area**: PS 125 & PS 125 OneStep Tabletop, AB 255, AB 255 OneStep, AB 255H Horizontal & AB 255H OneStep Horizontal, Autobag 500 & 550
The following equipment requires a **2.25" clear sealing area**: Autobag 850S
Any machine with a **BLT TRIMMER requires a 2"** clear sealing area at the open end.

IMPRINTING:

The imprint area must be larger than the actual imprint copy by 3/4" in both length and width. Be sure to plan with the maximum imprint area for this bag if multiple imprints will be used. FAILURE TO ALLOW PROPER MARGIN FOR IMPRINTING MAY CAUSE THE IMPRINT COPY TO FALL OUT OF THE PLANNED IMPRINT AREA. Once the bag is printed, the only solution is to reduce the imprint copy. Imprinting over varnish is acceptable but must be indicated or requested since our standard process is to knock out the varnish overprint for areas to be imprinted.

BAG SKIRTS:

All Autobag® poly bags will have a skirt. The standard skirt extends 1/4" (+/- 3/16") beyond the factory seal. Other skirt sizes must be specified clearly.

TYPE SIZE:

The minimum size for POSITIVE Type is 5 Point for Sans Serif typefaces. Reverse copy must be at least 6 Point BOLD –Sans Serif typefaces. Serif or decorative faces should be made larger. Type printed using Metallic inks should also be made larger. In many cases, art design may require the type size to be below our minimum size requirements. It is not uncommon for type "fill in" to occur, especially with reverse copy. (APS cannot guarantee the print will be readable)