

advancelabels

your sticky situations sorted



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Artwork guide

PRINT PROCESS

Flexography, sometimes referred to as "surface printing," is a method commonly used for printing on packaging and other uneven surfaces. In "flexo," the plates used in the printing process are often made of rubber or flexible plastic, allowing the inked surface to conform to many kinds of substrates.

These inks, unlike those used in lithography, generally have low viscosity, as is the case with the inks used in gravure. This quality makes both processes quick-drying, which in turn results in relatively high speeds of production for both techniques

COLOURS

Our presses have 6 print units in total and consideration is needed for varnish/other finishes which will impact on available stations.

PROCESS COLOURS (4 COLOUR PROCESS): Process colours are normally used where continuous tones (as in photographs) are required, a wide range of colours are available using the primary colours Cyan, Magenta & Yellow mixed with Black.

For instance, if we needed to produce Pantone 032 using a 4 colour process, the 'split' would be Cyan = 0%, Magenta = 90%, Yellow = 86% and Black = 0%. this would give an approximation to the Pantone reference.

PANTONE COLOURS: Pantone books show Lithographic inks printed by the Lithographic process our inks are specially formulated for our application and whilst they are very close a small variance from Pantone may occur. In critical instances, the request of a drawdown is advisable.

SOLIDS AND TONE: Where possible, it is advisable to avoid line and tone on the same plate. In order to achieve good solids a greater weight of ink is applied across the plate and this impacts on any screens.

BLEED

Allow for 3mm bleed for any items of artwork that runs off the edge of the label. Bleed accounts for movement when the die cuts the stock. It prevents the appearance of a white gap on the edge of your label if the cutter does not line up perfectly.

MINIMUM SIZES

TYPE: We recommend using no less than 6 pt. text, especially when reversed out of a solid background. We also recommend using bold fonts for reverse text and avoiding fonts with serifs which may fill in. Where text overlaps more than one colour, add a 0.5 pt. stroke to keep text legible.

LINES: Avoid using less than 0.2 mm rules. Reverse rules less than 0.2 mm. may fill-in especially if there are large solid areas in the same color on the label. Outlines around text or objects should be no less than 0.2 mm thick.

CUTTER TOLERANCE: For best results, keep any artwork that does not bleed spaced 1.5mm from the cutter. With any press movement, spacing and borders will still look consistent on all edges of the label.

BARCODES

Barcodes must be created at Bar Width Reduction of 20 microns and a minimum size of 80% , minimum bar height to be 14mm. It is recommended that the "quiet area" be extended by 1mm both sides.

SOLUTIONS TO PROBLEM AREAS OF FINE VIGNETTES

GRADIENTS & SCANS (AM SCREENING)

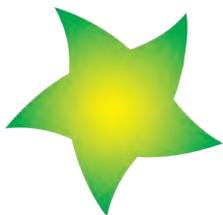
Gradients and scans should ideally not use less than a 1% screen of a colour. A smooth blend of color to no colour at all cannot be achieved unless it is a gradient of a very light color, like yellow.

Illustration 1 shows artwork with a radial gradient from solid cyan to 0% overprinting yellow, no problem for the litho process.

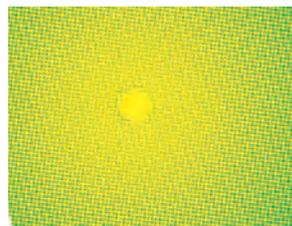
Illustration 2 represents how the gradient may print with flexo allowing for loss of dots below 1% and the resultant dot gain. Notice how the gradient abruptly stops where there is less than 1% a "halo" also appears around the edges, exaggerating the effects.

The example shown in illus. 3 represents the same art carrying 1% cyan through the centre. Please note that, due to dot gain on press, the 1% screened area may gain to a 5-6% screen.

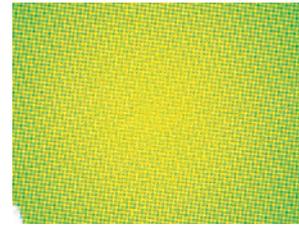
The "golden rule" therefore is to stop any screens vignetting to below 3% at a defined edge or to continue the minimum dot across the image (see separate sheet for more examples).



illus. 1



illus. 2



illus. 3

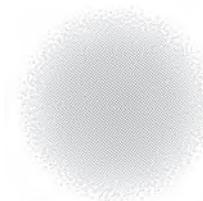
Avoid using a screen of a colour in large background areas. Colour inconsistencies can occur due to movement and vibration on press. If possible, use a lighter solid PMS colour for large areas.

With flexo repro it is best practice to remove the black element of a colour from the CMY and replace it in the Black separation. For example removing the cyan from a tomato and the magenta from a lettuce leaf and replacing in the black channel will aid printability. Often this will result in the freeing up of a print station thus allowing for further control when printing (see separate sheet for examples).

GRADIENTS & SCANS (HYBRID SCREENING)

If you have the capability to print smooth vignettes to less than 1% using advanced screening technology. The illustration below left shows a vignette stopping suddenly. The illustration on the right shows a much smoother transition to zero by random removal of minimum dots.

This technology should be used selectively and each job is assessed to select the process to produce the optimum results.



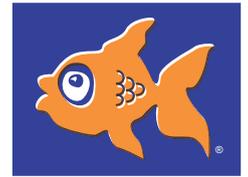
REGISTRATION

Wherever two colours meet they must overlap slightly so that with any movement of the material on press, there is no white gap between the colours. We call this "trapping". In the bottom fish example, the orange colour is trapped into the purple.

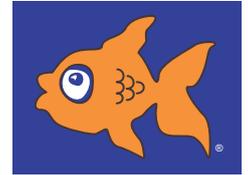
GRADIENTS & SCANS (AM SCREENING)

Depending on the design and the colours involved, we may use more or less than .18mm.

The fish here illustrates an issue that occurs as a result of trapping. The purple outline appears almost black since the orange is trapped into it. Art which is too small to trap, like the scales on the fish, will overprint as shown in the bottom example, resulting in a colour change. When designing artwork, please be aware of colour combinations which may give you similar results.

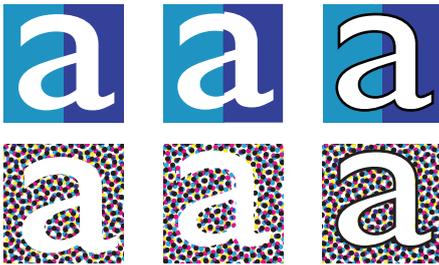


Artwork out of registration with no trap applied.



Artwork with trap applied.

REVERSE TEXT



Reversed text over 2 PMS colours or 4-colour process

Misregistration results

Outlines added for registration

If reverse text or other objects occur within process or run from one spot colour into another, it should be outlined with black or some other colour that exists in the layout. If these different colours move even slightly it will distort the text or the object. (If it occurs within process, it may appear blurry.) The outline allows the edges of those colors behind the text to hide behind the outline. Thus, movement will not distort the text or the object. We need at least a 0.38mm outline to do this. It is also best if any reverse text is a **BOLD** font.

VECTOR ARTWORK

When possible, copy should be supplied as vectorized art (curves) and/or editable text so that resolution is not an issue.

Vectorized Line Art is art created in a drawing program such as Adobe Illustrator. Line art consists of shapes and lines that can easily be manipulated by grabbing points (nodes or anchor points) and adjusting them (see the selected star shape in illus. A & B). Colours can be applied or an outline can be added easily to vector art. Line thicknesses can be increased easily and the resolution is always good no matter what size the art prints at. Trapping and text editing can also be done with ease. In the example below, the background image is the only item supplied as a raster image, the remaining copy is vectorized art or editable text.

Note the difference in the crispness of text and lines in the two examples shown below.



If text is part of a bitmap image, the pixels determine smoothness.



For better results, use editable text or curves with outlines added for registration.



illus. A

Text in curves (not editable - this is vectorized line art)

CMYK bitmap image

Editable text uses font named "Nueva Std"

Star shapes are vectorized lines (note anchor points shown in blue)



illus. B

(a view of same artwork in outline view)

POTENTIAL EFFECTS OF MINIMUM DOT LESS THAN 1%



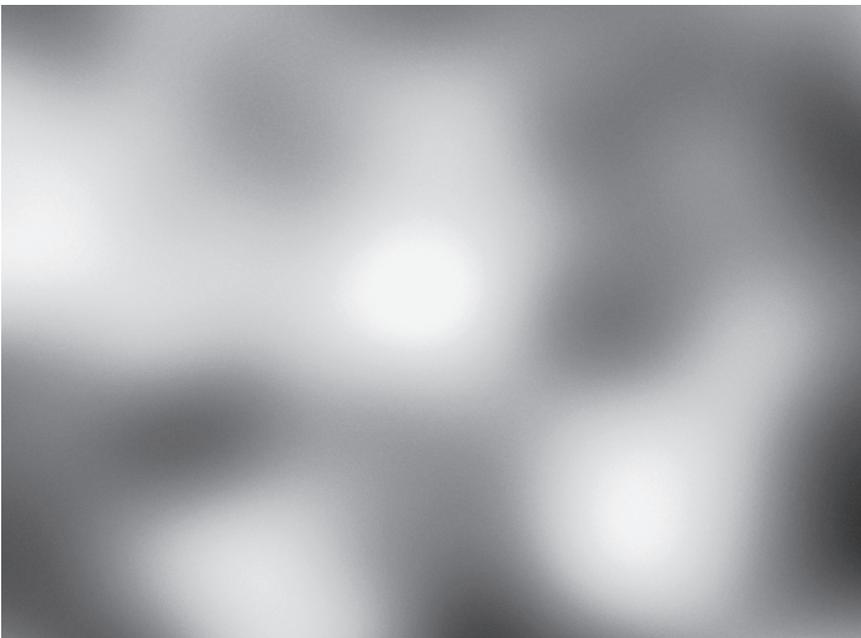
1

TONAL RANGE FROM 90% TO 0%
WILL GIVE AN ACCEPTABLE RESULT
IF PRINTED SHEETFED LITHO.



2

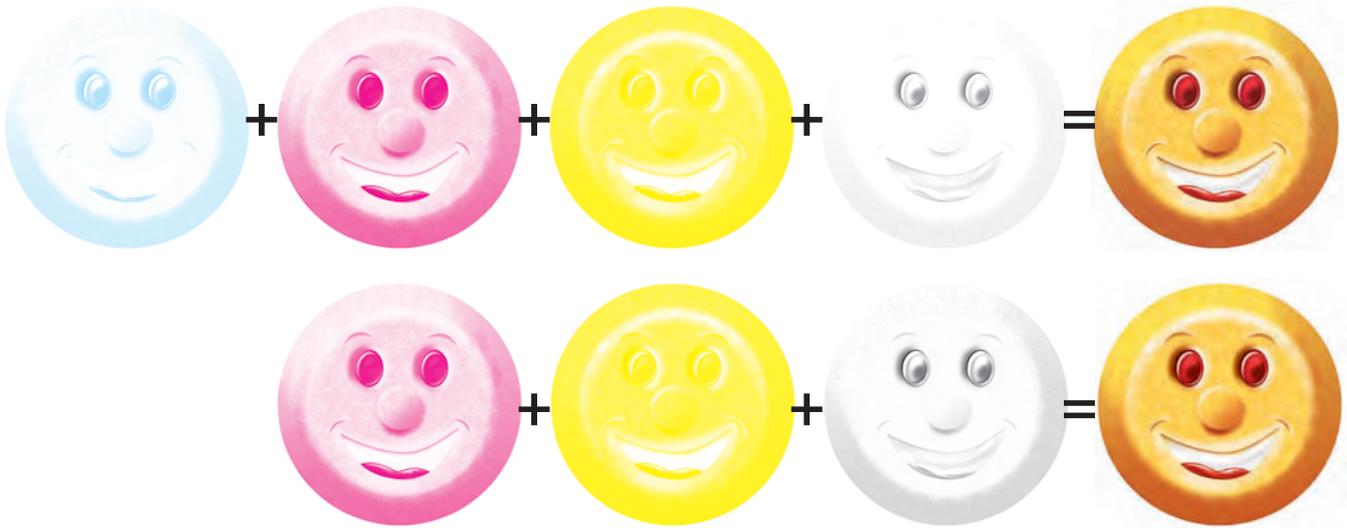
THE ABOVE IMAGE PRINTED FLEXO
WOULD GIVE A RESULT SOMETHING
LIKE THIS. NOTICE THE "BURNT OUT"
EFFECT IN THE HIGHLIGHT AREA.



3

IMAGE 1 RETOUCED TO A
TONAL RANGE FROM 90% TO 1%
TO GIVE AN ACCEPTABLE RESULT
WHEN PRINTED FLEXO.

TYPICAL RETOUCHING PRACTICES FOR PACKAGING REPRO



AFTER RETOUCHING CYAN HAS BEEN ELIMINATED AND A CLOSE MATCH TO THE ORIGINAL IS ACHIEVED. THE RESULT IS SIMPLIFICATION OF PRINTING AND THE FREEING UP OF A PRINT STATION.



ORIGINAL SCAN



RETOUCHED SCAN. NOTICE THE REMOVAL OF MAGENTA FROM THE LEAVES AND CYAN FROM THE ORANGE THIS IS THEN ADDED TO THE BLACK CHANNEL AND THE SEPARATIONS BALANCED TO MATCH THE ORIGINAL

GLOSSARY OF TERMS

Banding - Sharp steps seen within a vignette as one colour transitions to another colour.

Black and White - Original art or proof in single colour (black image on a white background), as distinguished from multicolour.

Bleed - Image or colour that extends beyond the trim edge of the finished printed piece. The 3mm extension beyond the actual trim dimensions of any graphics or type which run to the edge of a page. Bleed is created as a safety net to ensure that none of the paper is seen at the edge of the page after trimming down the printed sheet.

CMYK - Cyan, magenta, yellow, black; the four process colour printing inks.

Colour - A visual sensation produced in the brain when the eye views various wavelengths of light. Light is transmitted, reflected and/or absorbed.

Colour Correction - To adjust a file to compensate for the characteristics of a printing process. Any method used to improve reproduction of the colour original (photograph, transparency, chrome, 35mm slide, digital photo, painting, etc.).

Colour Monitor - An RGB or composite monitor which uses separate video signals of red, green, and blue; the three primary additive colours.

Colour Separation - The process of exposing an original colour image through RGB filters to produce complementary images which will be printed with CMYK inks. The final plate making film negatives include masking (colour modification) for specific inks and substrates, as well as halftone screening to enable printing a uniform tone scale with proper gray balance from extreme highlights through mid tones and shadows to maximum solid colour. This can be done with a graphic arts camera, but today is accomplished almost exclusively and more effectively on scanners and image setters as one of the final prepress production operations.

Continuous Tone - An image containing a range of colour tones from light to dark. Appear as pixels on a colour monitor or silver pigment particles on a photograph. Must be converted to halftone dots in order to be printed.

CT - An abbreviation for continuous tone. A picture file; conveying the concept that halftone screening can be performed on this file upon output, as when screening CTs at a specific size and screen ruling on an image setter. CTfiles are created by either scanning a picture into the system or by generating a CT image internally.

Cut-back Curves - Data which indicates the film negative halftone dot areas needed to compensate for normal dot gain throughout the entire tone scale during the printing process. This data is specific to particular printing materials and process conditions.

Cyan - One of the four ink colours used in four-colour process printing. A blue-green colour which primarily absorbs red light. Also commonly called process blue.

Distortion - Changing the size of a file in a non-proportional manner (anamorphic scaling).

Distortion Factor - A multiplier which compensates for normal flexo image shrinkage with rubber plates and image stretch when flexo plates are made flat and mounted around a cylinder for printing.

Dot Gain - The dot size growth from the film to a printed dot. This causes darker tones or unwanted colours. It generally is more pronounced in the mid-tones and shadow areas. It is a physical and/or optical measurement and theoretical calculation of the apparent increase in dot area from one medium to another. Normally expressed as the difference between a mid-tone (nominal 50%) dot area on a film negative and the printed dot area; for example, a 50% film dot area which prints as a 78% dot has a 28% dot gain. Dot gain (and loss) are normal and must be controlled throughout the prepress and printing process.

Dot Gain Curve - Graphic illustration of dot gain data throughout the entire highlight (non image) to extreme shadow (solid image) tone scale.

Double Bump - Application of two layers of ink to achieve greater opacity or more intense colour.

DPI - Dots per inch.

Drop Shadow - Digitally generated shadow used in cases where shadow from photograph is inadequate or nonexistent. Generally created using only the black channel but can be created in 4-colour as well.

Duotone - A special effect created by printing a black & white photograph with black and a PMS colour ink. This effect can also be accomplished using black and multiple PMS colours.

EPS (Encapsulated PostScript) - A file format that carries both a description of an image in the PostScript page-description language and an optional bitmap equivalent for screen display. Commonly used for image interchange on the Macintosh.

Font - A complete set of characters in one design, size, and style. In traditional typography usage, font may be restricted to a particular size and style or may comprise multiple sizes, or multiple sizes and styles, of a typeface design.

FPO - Indicates "For Position Only". This image will be replaced in production (usually on the film image setter) with a high-resolution image.

Gamut - The total range of colours that can be displayed.

GCR (Gray Component Replacement) - System to reduce overprinted halftone dot sizes of CMY overprint areas and increase the appropriate black halftone dot sizes to achieve a neutral gray with less ink and improved printing conditions.

Gray Balance - The proper combination of cyan, magenta, and yellow ink dot area, hue/density, trap, transparency, and register on a specific substrate under normal printing conditions which reproduce as a neutral gray throughout the entire tone scale.

Halftone - A pictorial which has been converted from a continuous tone original image, such as a photograph, into dots of appropriate size which, when printed, give the visual illusion closely resembling the original over a gradation range from highlight to shadow.

Halftone Tint - An area of approximately equal sized halftone dots producing a uniform optical density.

Highlight - The lightest or whitest parts in a photograph represented in a halftone reproduction by the smallest dots or no dots.

Imaging - Taking a digital scan and composing, outlining, retouching or ghosting it. Drop shadows may be added to outlined elements. Vignettes may be generated to reduce the possibility of banding.

Kerning - Modifying the normal space between letters during typesetting; can be plus or minus letter spacing in computerized typesetting. Traditionally this involved reducing space between only selected characters, such as the L and Y in ONLY, to be more readable or pleasing to the eye; see letter spacing.

Letter Spacing - Adding space between characters and spaces during typesetting; also known as "tracking" in some typesetting software; see kerning.

Lines Per Inch (lpi) - The number of dots per linear inch in a halftone. Dot size varies from very small highlight dots to large shadow dots. More lines per inch increases resolution detail and dot gain.

Magenta - One of the four ink colours used in four-colour process printing. A bluish-red colour which primarily absorbs green light but also absorbs an excessive amount of blue. Also commonly called process red.

Moire - An optical interference pattern caused when two screened images are superimposed at inappropriate angles. A flexo anilox roll also can cause moire.

Output - Information that comes from a computer as a result of its processing.

Pixel - Picture element, or the smallest unit (cell, dot, square) on a colour monitor display screen grid that can be displayed, stored, or addressed. A picture is typically composed of a rectangular array of pixels.

Print Contrast - A ratio of the difference between the printed solid area density and a printed shadow tint area (normally 75% as measured on the plate making film negative) to the density of the solid, expressed as a percentage. This indicates the printing system's capability to hold image detail in the upper tone region. Most desirable (highest) print contrast occurs with the simultaneous highest solid print density and the lowest dot gain.

Process colours - colour reproduction made by overprinting halftone separations using the four process colours; process yellow, magenta, cyan, and black. Hue may be modified to meet specific needs. SWOP (Specifications Web Offset Publications) is becoming the quasi printing industry standard.

Quiet Zones - Areas free of printing that precede the leftmost bar and follow the rightmost bar in a bar code symbol.

Raster Image Processing (RIP) - A device or program that translates information in page description language to the pattern of dots to be delivered by the output unit of the system.

Resolution - A measure of the number of pixels per unit of linear measure, eg., 12 pixels per millimeter is a RES 12. Normally, the resolution of a file is the same vertically and horizontally; thus a square millimeter contains $12 \times 12 = 144$ pixels for a RES 12 file. The higher the RES, the better the image detail; but the file will be larger and will require longer processing time.

Retouching - Digitally adding, removing or recreating any element in a photograph.

Reverse - To change the tonal orientation of an image, making the darker elements lighter and the lighter darker. Note that to physically reverse the spatial orientation of an image is known as "flopping" the image.

Reverse (knock-out) - The process of dropping an image out of the background colour so type, for example, will appear white with a colour surround.

Reverse Print - Printing wrong reading on the underside of transparent film which, when laminated to another substrate with the ink in the middle of the "sandwich" causes the image to become right-reading when viewed through the sheet it was printed upon.

Rosette - The desirable circular patterns created when four-colour process colours are printed in register.

Sans Serif - Without serifs, which are the fine lines that finish off the main strokes of a letter.

Scanning - Converting camera-ready artwork, reflective prints and transparencies into digital files. For critical colour jobs, colour corrections are executed during and/or after scanning. Custom setups are used for creating special effects such as duotones and touch plates.

Screen Ruling (lpi) - The number of lines to the inch in the screen ruling. They range from a COARSE ruling of 65 to FINE at 300 lines. The finer the screen, the sharper the detail in reproduction. Newspapers produce halftones in 55 to 85 line screen. Quality magazines may have up to 300 line screen. There are 90,000 dots/square inch in a four-colour printed area using a 150 line screen.

TIFF (Tag Image File Format) - A file format for graphics developed by Aldus, Adobe, and Apple that is particularly suited for representing scanned images and other large bitmaps.

Transparency - A positive colour image of an original, such as a 35mm slide. They come in standard photographic sizes, 2 1/4" x 2 1/4", 4" x 5", or larger.

Trapping (Image) - The practice of spreading the adjacent (buted) images printing in subordinate colours around white type or along a white line, permitting the dominant (usually darker) colour image to define the edge. This allows normal register tolerances to exist without degrading the design. It is the .18mm overlap of adjacent colour objects to compensate for misregistration and paper stretch during the printing process. As a general rule, the lighter object is spread into the darker.

Truncated - Shortened. Decreasing the height of the bars in a UPC bar code symbol below the normal specification which decreases the symbol's ability to read omnidirectionally and should be avoided.

Vector - A line between two points. Vectors are created and displayed on the screen with drawing software. Vector drawings can be processed as a series of points and connections which are compact for a computer to store and manipulate.

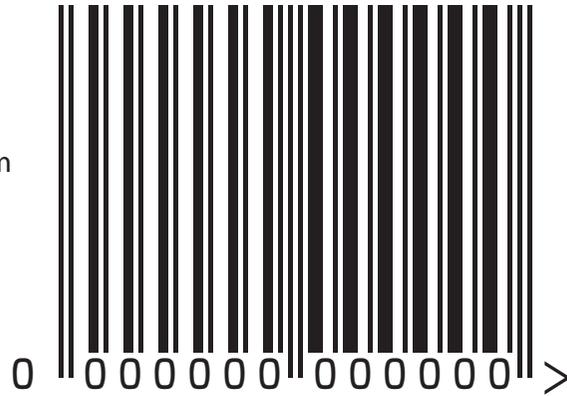
Vignette - An illustration in which the background gradually fades away until it blends into the unprinted substrate or a solid print. Also called "fade." The term is occasionally used to indicate a conventional halftone.

STANDARD 13 DIGIT EAN BARCODES

Smallest size starts at 80% magnification and goes up in 5% increments up to 200%

W 75.2mm

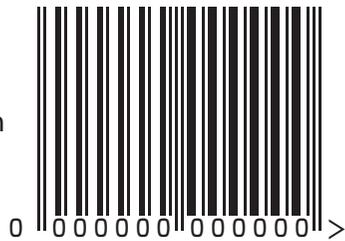
H 54.6mm



200% 13 DIGIT EAN (LARGEST)

W 45.1mm

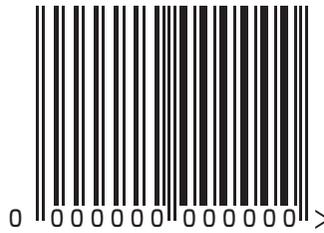
H 32.7mm



120% 13 DIGIT EAN

W 43.2 mm

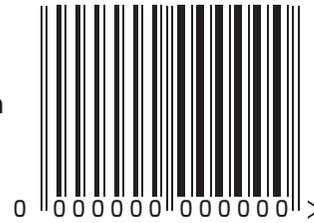
H 31.4mm



115% 13 DIGIT EAN

W 41.5 mm

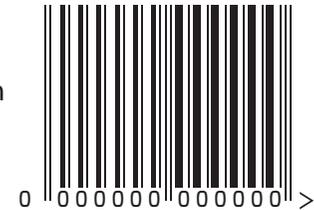
H 30.3mm



110% 13 DIGIT EAN

W 39.6 mm

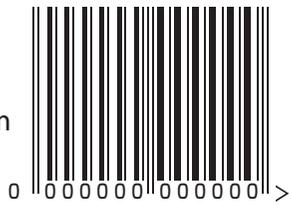
H 28.6mm



105% 13 DIGIT EAN

W 37.7mm

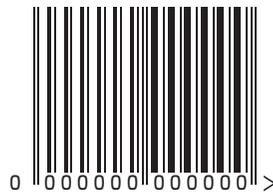
H 27.3mm



100% 13 DIGIT EAN

W 35.8mm

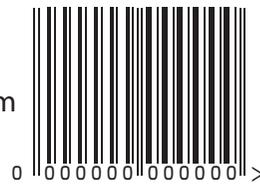
H 26mm



95% 13 DIGIT EAN

W 33.9mm

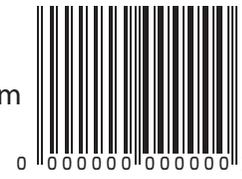
H 24.7mm



90% 13 DIGIT EAN

W 32mm

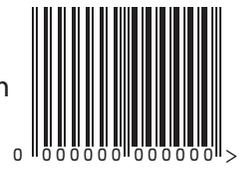
H 23.2mm



85% 13 DIGIT EAN

W 30.1mm

H 21.9mm



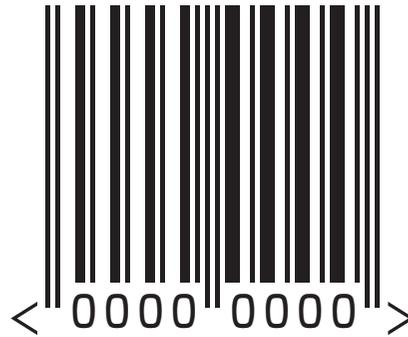
80% 13 DIGIT EAN
(SMALLEST)

STANDARD 8 DIGIT EAN BARCODES

Smallest size starts at 80% magnification and goes up in 5% increments up to 200%

W 53.5mm

H 44.9mm



200% 8 DIGIT EAN (LARGEST)

W 32mm

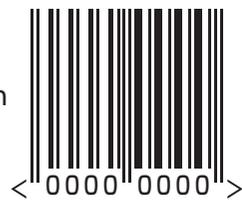
H 26.9mm



120% 8 DIGIT EAN

W 30.7mm

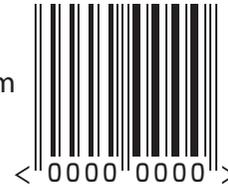
H 25.9mm



115% 8 DIGIT EAN

W 29.4mm

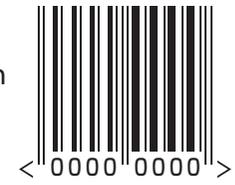
H 24.6mm



110% 8 DIGIT EAN

W 28.1mm

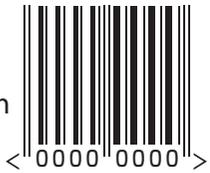
H 23.5mm



105% 8 DIGIT EAN

W 26.7mm

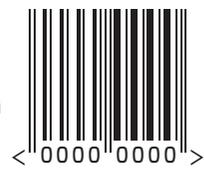
H 22.4mm



100% 8 DIGIT EAN

W 25.4mm

H 21.4mm



95% 8 DIGIT EAN

W 24.1mm

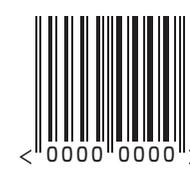
H 20.3mm



90% 8 DIGIT EAN

W 22.8mm

H 19mm



85% 8 DIGIT EAN

W 21.3mm

H 18mm



80% 8 DIGIT EAN
(SMALLEST)