



# Artwork Requirements

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# Important

- Your ability to supply artwork files to meet the Guru Labels Artwork Guidelines greatly enhances our ability to meet your printed needs and expectations. However, due to the nature of the digital print process it is commonly understood and accepted that some variations can and will occur from job to job.
- This document has been created using examples from the Adobe Suite as it is the most commonly used software in the industry. For other software you will need to use their equivalent processes and procedures to produce these results, however we will not be able to offer support for those programs.

# 1. Introduction

Welcome to the Guru Labels Artwork Requirements Guide. The following pages are designed to give you the information you need to ensure your job is produced on time, as expected and to also help ensure a level of consistency from job to job.

As **Guru Labels** offers a wide variety of print technology solutions, not only will you be provided with the basic requirements to set up your art file correctly, but also with a set of rules and suggestions to guarantee the best possible results from each print process.

## File Requirements

This chapter will deal with the basic requirements for all of our print processes. From file resolution, bleed, print margins, etc.

As a rule these will be able to apply to all types of print, however, in the case of exceptions these will be addressed in detail for each process.

## Colour Management

Here we will address the correct way to supply files to Guru Labels in order to deliver consistent prints from job to job. In particular we will look at the correct way to supply files using the various Pantone matching books and which processes require which book.

We will also cover what level of colour matching you can expect from which process.

## Special Spot Colours

For certain print processes you will need to indicate the use of a special print colour or process. This chapter will cover the correct way to supply these to us to ensure accuracy and the correct finishing of your job.

## Barcodes

We will briefly cover the main concerns when producing barcodes. This will by no means be a comprehensive guide, however, it will cover the most common issues faced when supplying artwork suitable for scanning barcodes in some of the more common situations.

## Check Lists

Once you have familiarised yourself with the requirements laid out in previous chapters, this chapter can be used as a quick reference guide for all the must dos and recommendations for each print process to help ensure we can provide you with the correct print every time.

## 2. File Requirements

The following chapter is built to give you a basic set of rules that will help you to set up quality files suitable across a wide range of **Guru Labels** print processes. In the event that a particular process has requirements contrary to these rules, these will be addressed separately for each process.

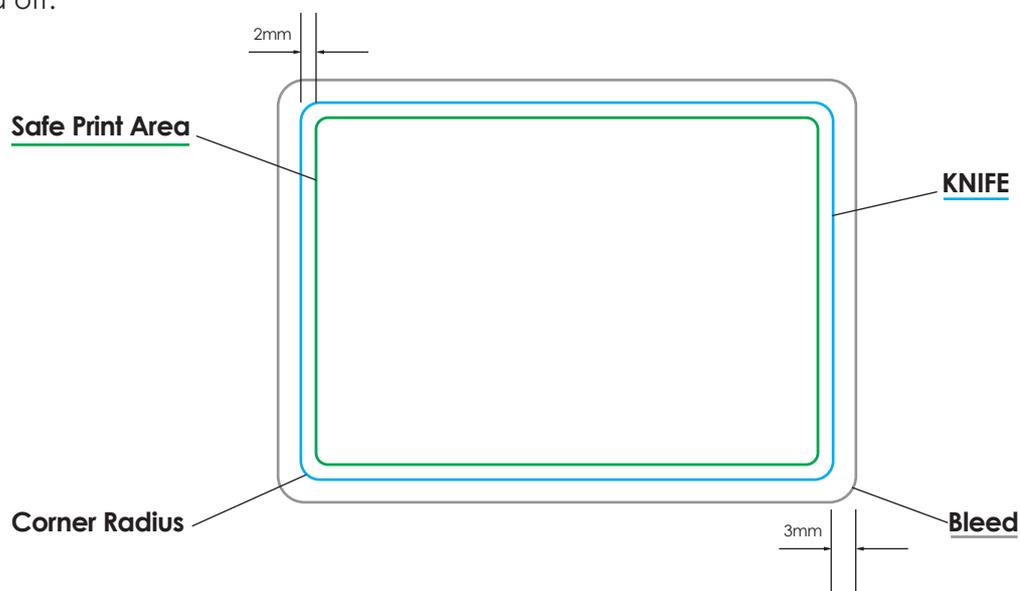
### 2.1 Basic Requirements

- All colours converted to CMYK. No RGB, LAB, custom or Pantone Swatches. Files supplied with these elements will need to be resupplied with colours converted to CMYK. (consult chapters 2.1, 2.2 and chapter 3. Special Spot Colours for exceptions to this rule)
- Where an attempt to match a Pantone colour has been requested, these colours must be supplied using the **Pantone+ Color Bridge Coated** swatch book. (consult chapter 3 Colour Management for further information on this)
- Fonts should be embedded or outlined. If you require Guru to make changes to a file you may be asked to supply a font file or where this is not possible to resupply files with the changes made.
- All images should be embedded and have a minimum resolution of 300dpi. Though not absolutely necessary, where possible logos and text are best supplied as vector elements.
- Unless stated otherwise below all art should include 3mm bleed on any printing done to the edge of a product.
- Print elements other than background images / colours should be brought in a minimum of 2mm from the edge of the finished product. In the case of press movement this ensures no details are lost. If you require print closer than 2mm please consult our sales staff to confirm the suitability of the art file.
- The final artboard size for your file should be expanded to include the entire art file including bleed.

The following sections outline a selection of rules and recommendations for various print processes.

### 2.2 Xeikon - Digital Roll to Roll

- For traditional die cutting you will be supplied with a template indicating the finished size and the recommended bleed and safe print area. Print files should be supplied following these guidelines. Once your file is complete you should either delete the guides or move them to a separate layer with print turned off.

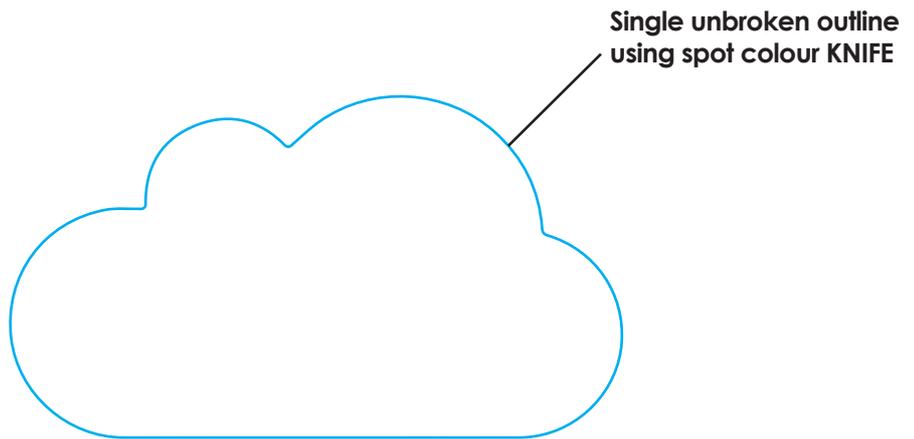
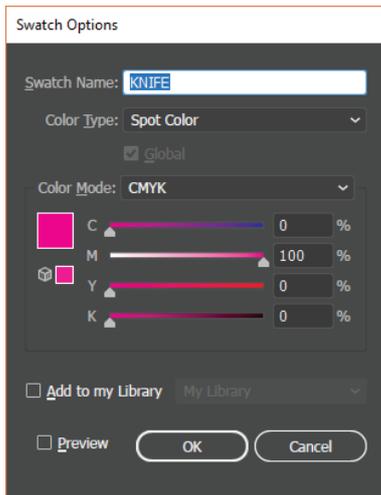


## 2. File Requirements

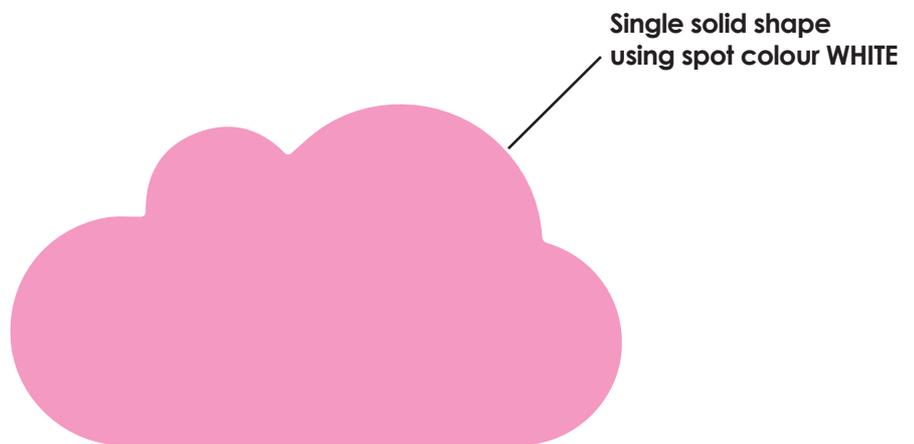
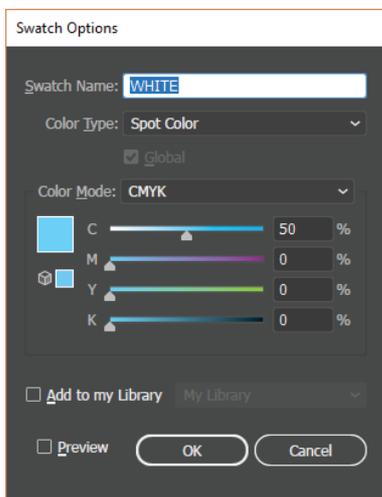
### 2.2 Xeikon - Digital Roll to Roll - cont'd

- For laser die cutting you will be required to create a stroke only shape on top of your print file with a spot colour named "KNIFE" (consult chapter 4 Special Spot Colours for further information on this).

A minimum corner radius of 0.6mm is recommended.



- For Jobs Requiring the Use of White print you will need to create a separate file indicating which areas of print will be printed in white. This should be indicated with a spot colour named "WHITE" (consult chapter 4 Special Spot Colours for further information on this).



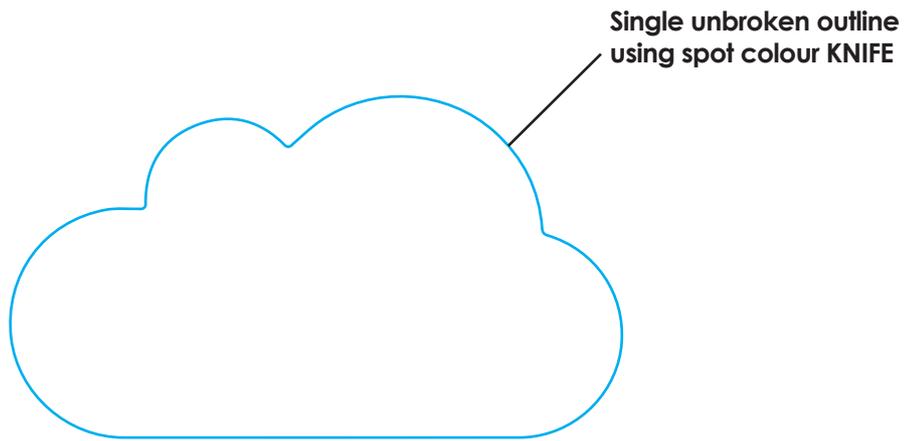
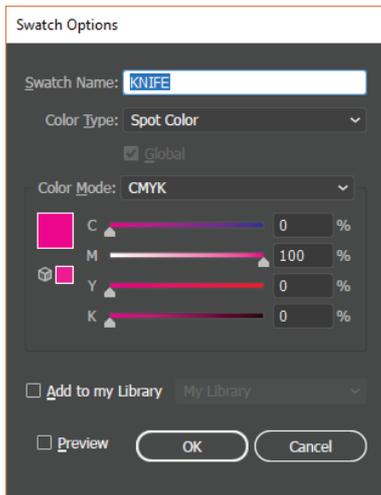
- Finally, for black print we make 2 recommendations. For text, barcodes, and fine details, the best results are achieved by simply using a **C:0 M:0 Y:0 K:100** breakup - this allows for much crisper prints. However for large blocks of black print or larger bold text we recommend using a rich black with breakup of **C:30 M:20 Y:20 K:100**. This gives a much denser finish. The decision is yours depending on the look you are after, however we do not recommend going beyond this level of toner coverage as it may cause issues when fusing the toner to the material.

# 2. File Requirements

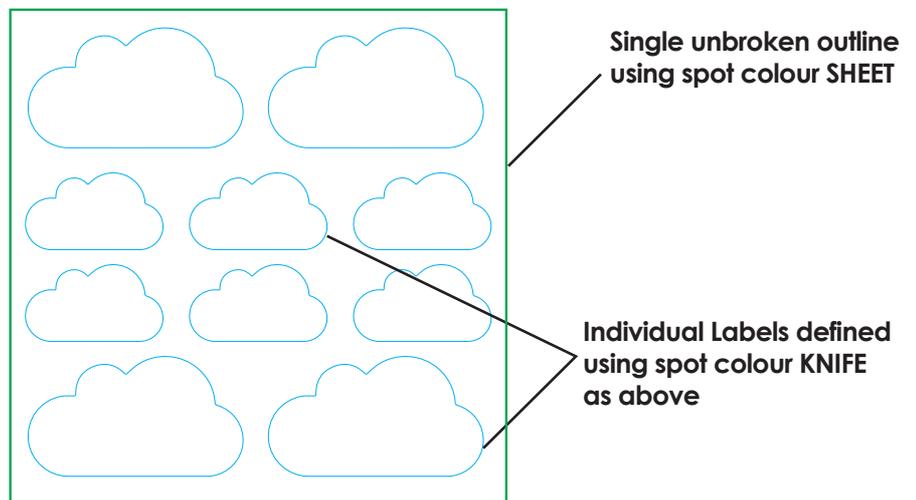
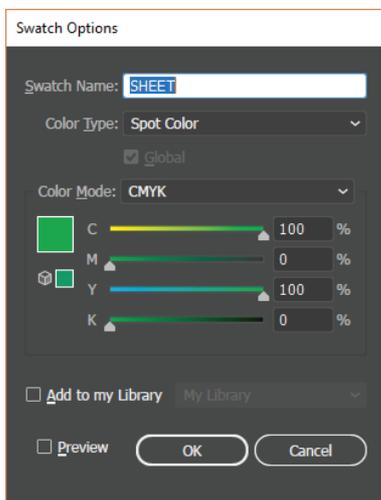
## 2.3 Wide Format

- For die cutting you will be required to create a stroke only shape on top of your print file with a spot colour named "KNIFE"(consult chapter 4 Special Spot Colours for further information on this).

A minimum corner radius of 0.6mm is recommended, although sharp corners are possible. For complex cuts consult your sales rep and they will determine whether the defined cut is possible.



- In the case that you wish to provide a job with a particular sheet layout, you can determine the edge of the sheet with a spot colour named "SHEET"(consult chapter 4 Special Spot Colours for further information on this).



- Finally, for black print we do not recommend using rich blacks at all so you should stick to a value of **C:0 M:0 Y:0 K:100**. Our wide format printers already produce a very dense glossy black and laying down excessive amounts of ink can have a negative impact on the print quality.

The same can be said for very dark colours, if their colour break up has too much of all the inks then the resulting print may have problems drying or even printing correctly in the first place.

# 2. File Requirements

## 2.4 Traditional / General Printing

*For our non-digital solutions the option of printing using spot colours is available. If you require this option speak to your sales rep so that they can direct your order to the appropriate print process.*

- If you require a Pantone Spot colour you should use the Pantone solid coated formula guide. You can also request custom spot colours if for example you need to match an existing print or product.
- For black print using a CMYK process we make 2 recommendations. For text, barcodes, and fine details, the best results are achieved by simply using a **C:0 M:0 Y:0 K:100** breakup - this allows for much crisper prints. However for large blocks of black print or larger bold text we recommend using a rich black with breakup of **C:60 M:40 Y:40 K:100**. This gives a much denser finish. The decision is yours depending on the look you are after.

## Important Notes

When printing using the CMYK process both digitally and traditionally, all care is taken to ensure colour consistency, however due to the print process involved some variation will occur.

When printing in CMYK, colour matching to Pantone spot colours or provided samples cannot be guaranteed.

All quotes are subject to change should art work received not be suitable for the selected print process.

# 3. Colour Management

In order to deliver consistent colour results from job to job we have put together the following set of guidelines, which when followed will not only allow for improved colour matching, but will help to keep jobs running to schedule. The following will use examples from previous runs to illustrate how slight changes from file to file can result in vastly different colours.

## 3.1 CMYK Values

The easiest element to keep track of from job to job is the CMYK values assigned to elements within a design. If for example a logo is provided in one job with values of **C:0 M:82 Y:94 K:2** and **C:12.35 M:86.65 Y:100 K:2.4** in another, then the end result will be two noticeably different colours which when seen together may be undesirable.



This will often occur when colours are being converted from one colour space to another (RGB>CMYK for example). This difference in colour not only makes it difficult for our printers to keep individual colours consistent, but the steps taken to correct these differences on machine can also cause significant colour shifts in other print elements, causing further difficulties in future prints.

For the best results make sure that any colours that carry over from one design to another keep the same CMYK values from job to job.

## 3.2 PANTONE Colour Books in CMYK print

To help with colour matching efforts we recommend using values from one of the following two colour books:

### PANTONE+ CMYK Coated

This book gives a series of CMYK colours that will give you a better idea of what to expect from the final printed product. This is also the book we will use for comparison if we are ever unsure of results from a given print. When designing, this book is heavily preferred for picking colours over picking based on on-screen representations.

### PANTONE+ Colour Bridge Coated

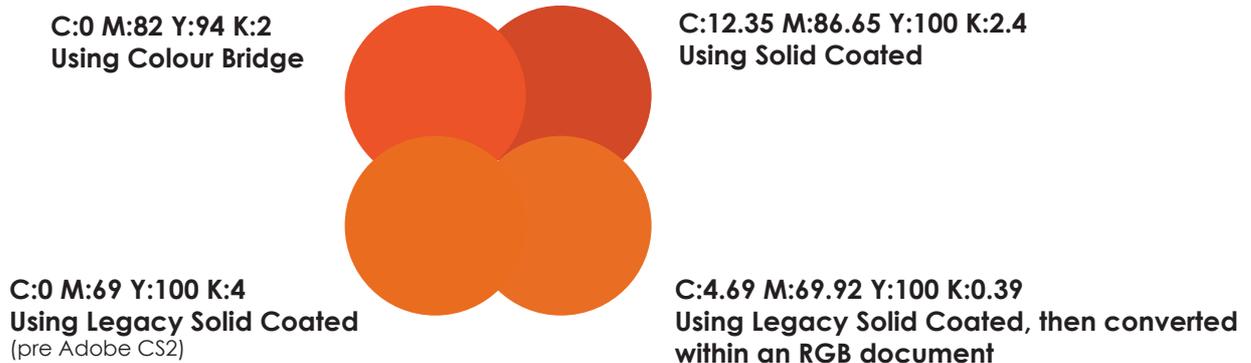
Similar to the above, this book is ideal for picking out CMYK colours when designing a printed product. The advantage here is that you will be given a visual representation of how close the given CMYK print will be to the selected Pantone colour, as it provides a side by side comparison of the two.

**IMPORTANT:** These two books are the only two sets of spot colours we will allow for CMYK print. If a file is received with a spot colour from another PANTONE library or matching system you will be asked to resubmit the artwork with either the colours converted to CMYK or using one of the above two books.

# 3. Colour Management

## 3.3 Avoid pitfalls when converting PANTONE Books

One of the dangers of converting Pantone spot colours from any of the colour books is that you can end up with noticeably different results from what would appear to be the same spot colour. Using the previous example as a basis, here are a range of oranges all converted from "Pantone 173".



For the best results we recommend making sure that you are using the latest Pantone+ Colour Bridge.

## 3.4 Colour Matching with CMYK

The most important thing to know is that we cannot guarantee a perfect colour match to either a Pantone spot colour or a provided sample when using digital processes. Also due to the nature of the technology there will always be some level of colour shift, some colours being worse than others.

If you require a colour match to either a Spot Colour or provided sample **it is important that you communicate this information to your sales representative** here at Guru Labels. This will enable them to properly assess the artwork for printability using this process.

In the event that we believe we will not be able to satisfactorily meet your requirements you will be given the option to either proceed with printing with the understanding that there will be substantial difference in colour, or to move the job over to a more traditional print process.

## 3.4 Spot Colours and Colour Matching with Traditional print methods

If you decide to produce your product using traditional printing methods you will need to supply your art file with all colours nominated using the **Pantone+ Solid Coated Book**. Alternatively a sample of your printed job can be supplied for us then to match to.

## 3.5 Stocks, Machines and other factors

It is important to remember that no two printers are the same and that colours will vary from one to the other. In addition to this, different materials all have their own inherent colour and as such no amount of colour matching can produce a perfect result.

Finally, different lighting environments will make colours appear to change. We will perform colour calibration using white light, however results will look different under fluorescent lighting.

## 4. Special Spot Colours

Beyond the spot colours used to specify different areas of print, you will sometimes need to nominate areas for special finishing or cutting. The following is a short list of spot colour names that we have set aside purely for these processes. It is important that these spot colours be named as stated below to ensure that they do not get processed as printed colours.

### White

This is used when printing on materials other than white stocks. It is used to block out areas from metallic materials to allow for standard CMYK print with metallic highlights. It is also used to create areas of near opacity (never 100%) on clear materials. To nominate areas of white print you must use a spot colour named "WHITE" in all caps. It is also ideal that you supply the white print in a separate file being careful that the alignment with the colour print from one file to the other is precise.

Recommended value: 50% Magenta 

### Varnish

Similar to white this spot colour is used to nominate areas that will print above the coloured print to produce a Gloss or Matt effect. To nominate areas of varnish you must use a spot colour named "VARNISH" in all caps. It is also ideal that you supply the varnished areas in a separate file being careful that the alignment with the colour print from one file to the other is precise.

Recommended value: 50% Yellow + 50% Magenta 

*Please note this process is not available with all print processes, please consult your sales representative if this is required.*

### Knife

To indicate the size and shape of a finished product you should use a spot colour named "KNIFE" in all caps. This is especially important for jobs where you are either purchasing a custom die or where you require a laser cut finish. This can be provided in the same file as your print so long as the above naming standard is followed. Alternatively you can supply it as a separate file.

Recommended value: 100% Cyan 

### Sheet

This is used primarily for wide format jobs however on occasion can be used for roll to roll jobs that will later be converted to sheets. It is used to nominate a final trim size for a sheet of individual labels. For this you must use a spot colour named "SHEET" in all caps.

Recommended value: 100% Cyan + 100% Yellow 

# 5. Barcodes

Barcodes are a print element that require their own unique set of rules. We will not try to cover everything here, however the most commonly misused barcode is the retail barcode so we will touch on those here.

## 5.1 Retail Barcodes (EAN-13)

The barcode we most commonly produce for a retail purpose is the EAN-13 barcode. Depending on their application these barcodes may be required to meet certain print and aspect ratio standards as set out by GS1 Australia. Of most importance to you while preparing the file you wish to have printed are the following:

- Width
- Bar Height
- Left and right quiet zones
- Colour / Contrast

Without going in to a complete run down, the first 3 points can be covered in general by analysing the following image.



Element	Value (at 100%)	Description
<b>Width</b>	31.35mm	Distance from left most edge to right most edge of bars
<b>Bar Height</b>	22.85mm	Height of the individual bars. This does not include the "guard bar height"
<b>Left Quiet Zone</b>	3.63mm	Unprinted "white" space to the left of the bars
<b>Right Quiet Zone</b>	2.31mm	Unprinted "white" space to the right of the bars
<b>Symbol Height</b>	25.93mm*	The distance from the top most edge of bars to the bottom of the digits

*\* This value is only given as a recommendation by GS1, so long as the font and size of the digits are readable and complete you may use any text style you need.*

Using the above values you can determine the required values for any magnification in increments of 5%. For example for a magnification of 105% you would multiply the values by 1.05. This is not a perfect system but will allow for fairly accurate barcode placement and design layout.

**Note:** It is always recommended that you allow slightly more than the minimum for the left and right quiet zones to protect against press movement and any ink spread.

Also it is recommended that you allow slightly more for your bar height to allow for any inaccuracy, especially in digital print methods. To pass GS1 testing you are not allowed to reduce the bar height.

# 5. Barcodes

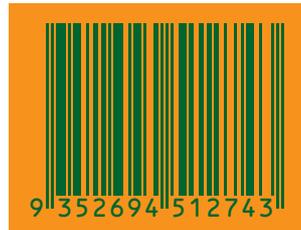
## 5.2 Barcode Readability

Another important factor to consider when submitting a barcode for print is the readability of your barcode. There are many elements that contribute to this but some of the most important are as follows:

### Contrast

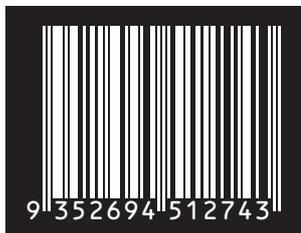
The contrast between the dark areas (the bars) and the light areas (white space between and surrounding the bars) must be sufficient enough for the barcode scanner to read the barcode.

The ideal combination is black bars on white however other combinations are allowed.



Examples of allowable colour combinations

One common error made when producing a barcode for print is inverting the colour selection so that the bars are light and the background dark. This combination will automatically fail when a scan is attempted. It is also important that you consider the contents of any packaging so that it will not affect the final contrast of the completed product. (Black print on clear bottle with dark contents for example)



Examples of non-scannable colour combinations

As mentioned earlier this is by no means a complete guide on barcode symbology.

If you wish to learn more about barcodes and the different rules and regulations we recommend visiting the following page from GS1 Australia. Here you will find technical documents regarding all barcode symbologies and their implementation:

<https://www.gs1au.org/resources/technical-documents/>

## 5.3 Barcode Reports

In general we are asked to print barcodes (especially retail) for one of three reasons. Cosmetic: does not need to scan, there as a visual element only. Functional: scans but does not need to meet any particular standards. Retail: needs to be used in a retail environment and must pass GS1 standards.

# 5. Barcodes

When placing your order it is important to communicate your requirements to your sales representative so that they can ensure that all the necessary measures are taken to produce the barcodes to your standards.

You can also request that we generate a barcode report, to ensure that your barcode once printed will meet with GS1 standards, this should also be communicated to your sales representative upon placing an order as testing will need to be done through various steps of production. You will then be provided with a PDF document with the final grade of the printed barcode.

<b>Bar Code Verification Report</b>		
<b>5012345678900</b>		
Date:	18-May-18	Serial number: AC63
Time:	10:53:01 AM	Aperture: 0.006"
Software Version:	2.0.26.4 (UI)	Wavelength: 2.6E-005" (660 nm.)
	2.0.26.4 (core)	Last Calibrated: 18-May-18
Number of scans:	10	
Code Type:	EAN-13 59 bars + spaces. NBW=0.013"	
<b>Average Grade (Pass=1.5):</b>	<b>A (4.0) - Pass (4.0/06/660)</b>	
<b>Average Bar Gain (tolerance):</b>	<b>6% (± 30.5%)</b>	
Magnification:	100%	
	Pass Scans	Fail Scans
Structure	1..10	
Left Margin	1..10	
Right Margin	1..10	
	Percentage Values	Average Grades
Minimum Reflectance	9%	A (4.0)
Maximum Reflectance	91%	
Global Threshold	50%	
Symbol Contrast	82%	A (4.0)
Min. Edge Contrast	63%	A (4.0)
Modulation	76%	A (4.0)
Defects	6%	A (4.0)
Decodability	82%	A (4.0)
Decode		A (4.0)
<small>Print Quality Standard: ISO/IEC 15416, ANSI X3.182 - 1990, EN 1635, DIN 1635, BS 1635            Symbology Specification: EN 797, ISO/IEC 15420, Verifier Conformance Standard: ISO/IEC 15426-1            Axicon Analyzer PC Verifier 2.0.26.4            Copyright © 1995-2011, Axicon Auto ID Limited: <a href="http://www.axicon.co.uk">http://www.axicon.co.uk</a></small>		

Example of Bar Code Verification Report

# 6. Check Lists

The following pages are designed to provide you with a quick checklist before submitting your files for print. To make sure the process is as smooth as possible go through and make sure all these points have been met.

Some points are considered necessary and if a file is provided that does not meet them you will be asked to resubmit your files, however certain points are only recommended and as such will not be a problem should you choose not to follow them

**Necessary points will be highlighted in red**

**Recommended points will be highlighted in green**

# Digital Roll To Roll

- All print colours converted to CMYK (no PMS colours, RGB, LAB etc)
- Where Pantone matching is to be attempted, use the Pantone+ Color Bridge Coated
- Fonts embedded or outlined.
- Minimum bleed requirements met** (3mm standard, or as specified in template)

Custom spot colours will not be accepted with the following exceptions

- KNIFE** is the spot colour used to identify the dieline of the label. This must appear as all caps KNIFE, no other variations can be accepted
- WHITE** is the spot colour used to identify the white layer of the label. This must appear as all caps WHITE, no other variations can be accepted.
- WHITE** print supplied as a separate file

- Blacks as solid blocks should be C30, M20, Y20, K100

- Blacks as text or fine print should be K100

# Wide Format

- All print colours converted to CMYK (no PMS colours, RGB, LAB etc)
- Where Pantone matching is to be attempted, use the Pantone+ Color Bridge Coated
- Fonts embedded or outlined.
- Minimum 3mm bleed

Custom spot colours will not be accepted with the following exceptions

- KNIFE is the spot colour used to identify the dieline of the label. This must appear as all caps KNIFE, no other variations can be accepted
- SHEET is the spot colour used to identify outer border of a sheet containing individual labels. This must appear as all caps SHEET, no other variations can be accepted
- WHITE is the spot colour used to identify the white layer of the label. This must appear as all caps WHITE, no other variations can be accepted.
- WHITE print supplied as a separate file
- All Blacks should be C0, M0, Y0, K100

# Traditional / General Printing

- For CMYK print, all colours converted to CMYK (no PMS colours, RGB, LAB etc)
  - Pantone colours use the Pantone+ Solid Coated book
  - Fonts embedded or outlined.
  - Minimum 3mm bleed
  - Custom spot colours discussed with sales representative
  - KNIFE is the spot colour used to identify the dieline of the label. This must appear as all caps KNIFE, no other variations can be accepted
  - SHEET is the spot colour used to identify outer border of a sheet containing individual labels. This must appear as all caps SHEET, no other variations can be accepted
  - WHITE is the spot colour used to identify the white layer of the label. This must appear as all caps WHITE, no other variations can be accepted.
  - VARNISH is the spot colour used to identify spot varnish on the label. This must appear as all caps VARNISH, no other variations can be accepted.
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- Blacks as solid blocks should be C60, M40, Y40, K100
  - Blacks as text or fine print should be K100