

Exploding the myths about toner coverage

In the printer and MFP (photocopier) market, an increasingly popular method salesmen use to influence customers is by offering differing cost per copy depending on the amount of toner on a page. This is commonly termed as “Low / High Colour Printing” or “Three Tier Billing”.

We have seen some quotations whereby the potential supplier’ estimate that 50% of the customer’s printing would fall into the “Low Colour” band, which is usually not realistic, but it looks great on a spreadsheet! This is because the cost reduction, by quoting 50% of your print/copies as “Low Colour”, affects the overall cost significantly, but by the time you realise that what seems to be a benefit, in reality, does not live up to expectations and you are tied into the agreement for up to 5 years!

This “Low Colour” cost is commonly set at 1-5% coverage of toner on a page (often in 0.6% increments), but it is NOT simply the element of the page that is in Cyan/Blue that “triggers” the “Low Colour” or “High Colour” meter but is set for the total amount of toner used to print the page.

Another significant factor to consider is that Papercut (print management software) currently (February 2020) does NOT support this type of billing and as such your internal print management is thrown into disarray.

You should be very careful when considering proposals that include this methodology for billing.

To explain all this, read on:

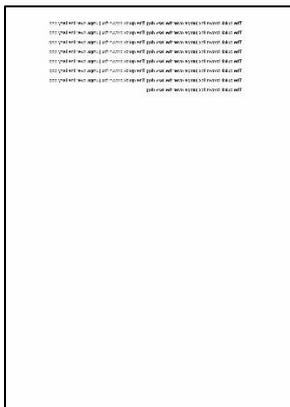
To keep things simple, this document uses the copy/page charges of:

Mono/Black A4 page	£0.01
Low Colour A4 page	£0.05
High Colour A4 page	£0.10

Most manufacturers publish the quantity of pages that their toners yield. This is normally based on 5% coverage of an A4 page and is a worldwide standard that is covered by International Organization for Standardization “ISO/IEC 24712:2007”. The toner yield is a major component of a supplier’s calculations when establishing what you pay them per copy or print

There are numerous factors that affect the amount of toner actually used when producing a copy or print including the font being used, size of font and even humidity! But let’s not worry about that as all you really want to know is what a given percentage on an A4 page looks like.

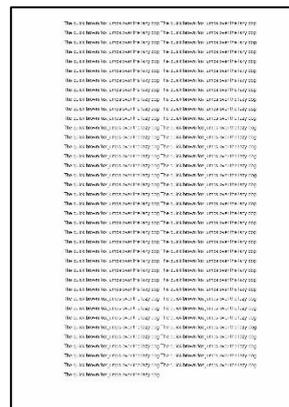
Below are thumbnails of various percentages of text (Arial 10pt) on an A4 page so you can see what they actually look like. You can download the full-size page by clicking on the thumbnail.



1%

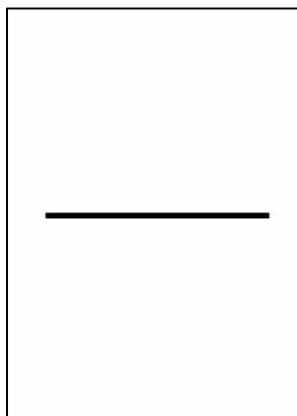


2%

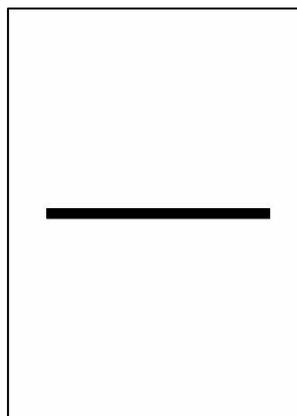


5%

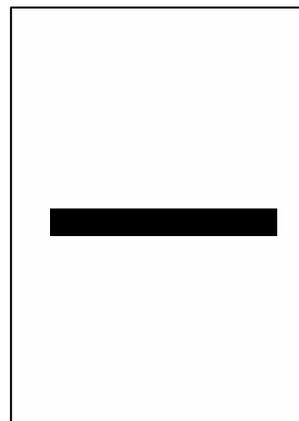
Below are solid blocks of black on an A4 page. You can download the full-size page by clicking on the thumbnail.



1%



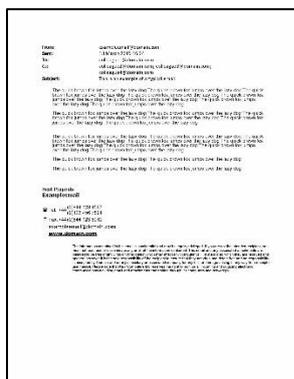
2%



5%

As can be seen, 1% coverage is very little.

Even if you print out a simple email (see the example below) it works out at 3.45% coverage in Black.

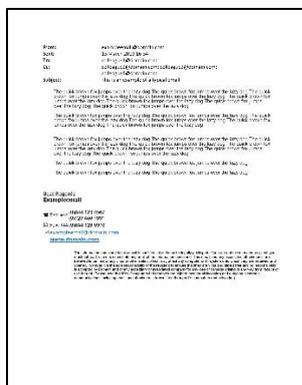


Mono email 3.45%

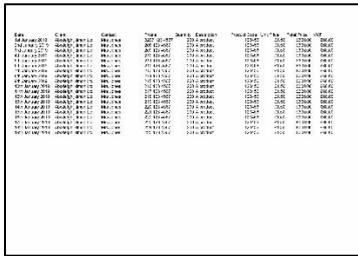
It then become more complicated when we start to look at colour.

Many pages include an element of colour, such as an email, where often the senders email address and website address appear in Cyan/Blue. When you print such an email you are not only printing the bulk of the email in black but you are also printing in colour (Cyan/Blue), therefore what you might think of as a black page is actually a colour page because of the small element of Cyan/Blue.

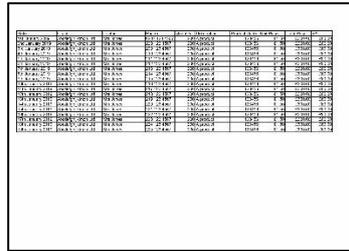
Even if there is ONLY a “Question mark (?)” in a colour on the page then the page will be treated as a colour page. In the example below the sender’s email address and web address is in colour. This email still equates to 3.45% toner coverage, as in the mono example above, but will be treated as a colour page and the cost will be calculated as 3.45% toner coverage BUT...instead of the cost being that of a Mono (black) page (£0.01) the cost will be £0.10, assuming that your “Low Colour” threshold is 3%. If your “Low Colour” threshold is 5% then the cost would be £0.05.



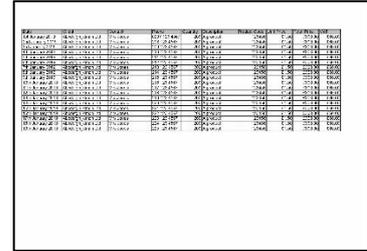
When it comes to spreadsheets remember that by adding gridlines this will increase the amount of toner used. The examples below use in Black (Mono) using Arial 10pt, one without gridlines, one with gridlines and the third with column headers shaded the other without and are all 20 rows high and 10 columns wide. You can click on the images below to download a full-sized copy.



No gridlines 3.96%



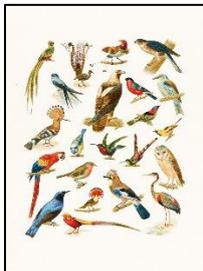
With Gridlines 8.09%



Inc' Gridlines & Shading 8.45%

Photographs and images

To give you an idea, when the image below is printed on an A4 page without altering the original size, the total toner coverage is 20%.



Did you know?

The whole of this 3-page document equates to:

1.3% coverage in colour

2.75% coverage in black

4.05% toner coverage in total

To calculate the percentages of toner used in the examples above we used:

“APFill Ink Coverage Meter”