

TRAPPING:

The most overlooked necessity in preparing your document for printing

As a general rule, any two colors that are touching should be slightly overlapped to create what printers call trapping. Of course, there are a stack of exceptions and amendments to this, but you get the idea.

Trapping is used to compensate for the small amount that the paper tends to wander as it goes through the press. Without trapping, unsightly white gaps may appear between two colors that are supposed to be touching. With trapping, one color is made to overlap the other. This allows the colors to keep touching one another, even as the paper wanders. Overprinting combines the top color with the color(s) underneath it, often creating a third color, or in the case of black, making black appear deeper and richer. Black almost always overprints.



THE THEORY OF TRAPPING

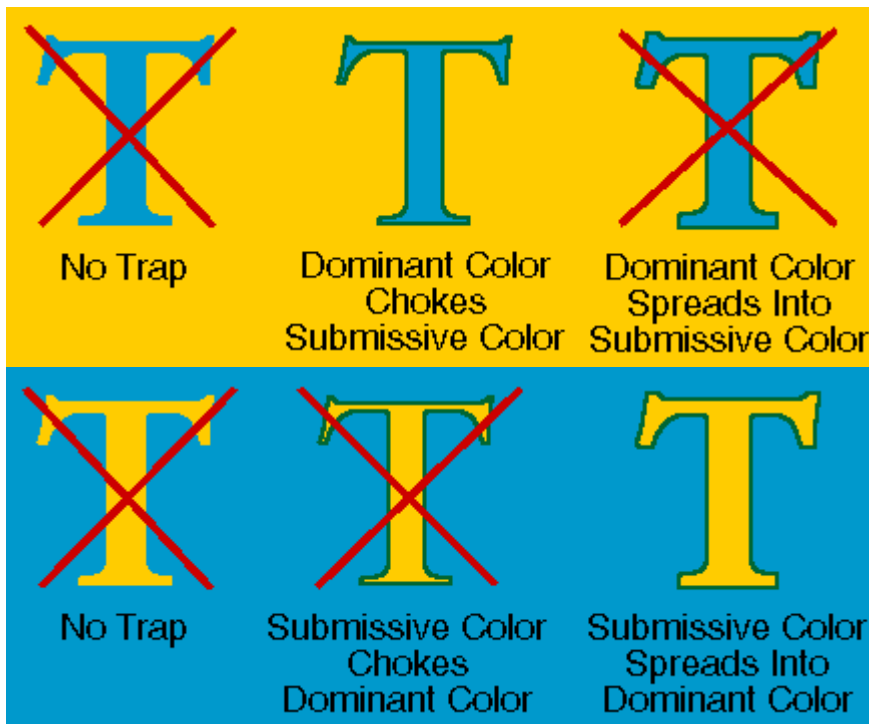
Understanding the theories behind trapping is important, because there are several different methods to apply trapping. Each method is used only in specific instances.

Trapping is applied based on the weight of the two colors that are touching. The weight, or luminosity, of each color needs to be judged, in order to determine which color is stronger, or dominant, and which color is weaker, or submissive. In the example above, cyan is the dominant color, and yellow is the submissive color. A submissive color is less visible when spread into a dominant color than if a dominant color spread into a submissive color.

Once the dominant color is determined, the weaker color is chosen to alter. Dominant colors generally remain unchanged; submissive colors change in reaction to the dominant color. In the example on the right above, the dominant cyan remains unchanged, while the submissive yellow spreads outward where the two come into contact, thus creating a trap.

When one color totally surrounds another, they must have either a choke or spread relationship. The examples below illustrate applications of choking and spreading. Notice that when a dominant color is surrounded by a submissive color, the dominant color

chokes the submissive color (it draws the submissive color underneath its edges). Conversely, when a submissive color is surrounded by a dominant color, it spreads into the dominant color (bottom example, below).



It is worth noting again that black almost always overprints everything. The exception to this is very large black text (100 points or larger) or fields of black that are on top of contrasting elements.

TRAPPING IN QUARK XPRESS

Professional page layout programs like QuarkXPress will take care of many trapping issues automatically. **But it doesn't trap perfectly - it often makes mistakes**, and applies the wrong method of trapping or traps when it is not necessary. We call these mistakes *Trapping Exception Errors*. Despite its foibles, though, Quark traps better than other page layout programs.

As a part of the preflight routine, a designer should check each color item in a document, and confirm that it is trapping correctly. This can be a long, tedious job, but it must be done. Remember that trapping is not visible on the screen or on composed proofs. It only becomes visible on color separations.

In QuarkXPress, open the trapping dialog box (Window>Show Trapping). Select individual text items with the text tool, and other objects with the selection tool. Their trapping values will appear in the trapping dialog box. Using that same dialog box, we can force changes to Quark's default trapping method, if we don't like what it's doing. Spread is indicated by a positive number (0.2 pt), and choke is indicated by a negative

number (-0.2 pt). Remember: When an item is set to choke, it remains unchanged while it draws the under color beneath its edges.

Among the most common Trapping Exception Errors are:

- Spreading colored text when it's on top of a white area of a placed photo or graphic. When colored text is on top of white, it doesn't need to trap. But if the text is on top of a white area of a photo or other placed graphic, Quark thinks it has to trap, because Quark doesn't see the content of the graphic, just the presence of a graphic. It doesn't know if the graphic is white, purple, green, or polka-dotted. When text spreads, it becomes fatter.
- Trapping colored text on top of a lighter shade of the same (or similar) color. When colors share significant color components, they don't need to trap. Many times, Quark will erroneously force text or other objects to trap when none is needed. Again, this can distort the shape of the text.
- Failing to trap two colors that don't overlap. If colors are really, really close, but don't touch by even a millionth of an inch, then Quark stubbornly refuses to trap them. It is a quite literal application, and we really can't fault Quark for behaving this way. Nonetheless, we expect computers to understand what we want, dang it! At any rate, we must be sure that colors are touching or overlapping, otherwise they won't trap.
- Spreading when choking is required or vice-versa. Quark will often confuse its trapping methods. Don't ask why. When our eye and common sense tells us that a color should choke the color beneath it, Quark will try to spread it. Or the other way around.
- Adopting "Knockout" as the only choke option. This error is infuriating because, when it happens, our only options are usually undesirable. Knockout is rarely acceptable, as it is the absence of any trap whatsoever. We are left, then, with evaluating the destruction wrought by the other possibilities, crossing our fingers, and choosing the lesser of the available evils. There is no hard and fast rule for which evil is least, because each situation is different.
- Forcing small text to spread. Text smaller than 14 points does not spread well, as it becomes bold and fills in. This is rarely desirable. Unfortunately, Quark often won't allow us to choke the under color in this situation (see gripe above). Once again, there is no hard and fast rule to solve this problem. If the text color is dark enough, overprinting may be an option. Each situation will be different.
- Overprinting black on top of contrasting elements. Color will show through black when printed on the press, so be aware of what is happening with colors underneath black. Black overprints everything by default. If Black is on top of a candy-stripe of red and white, it's best to have it trap rather than overprint.
- To sum up, check everything that has color applied to it. The only thing that Quark traps reliably is black text.

Having trashed Quark's trapping, let us now make this perfectly clear: QuarkXPress is the best page layout program available, period. If it is a little quirky in its trapping, we are tolerant because it still does it better than any other page layout program.

TRAPPING IN ADOBE ILLUSTRATOR

Page layout programs cannot trap graphics created in other programs and placed as pictures. Graphics must be trapped in the program that created them. Trapping in Adobe Illustrator is complicated, and best left to experienced artists. However, let's say in general that trapping is achieved in Illustrator by utilizing the "overprint" function in Illustrator's "Attributes" palette. Be warned; trapping in Illustrator can be mind-bending. It should not be attempted by anyone who might be described as "on the edge," as this will definitely push them over.

TRAPPING VALUES

At Copriso, we prefer a minimum trap of .2 points (.004 Inches).

Trapping is a technical issue that can be tedious to apply. Many designers prefer to leave trapping up to their service bureau or printer. Our Graphics Department will be happy to trap your document for you (for an additional charge).