

Ink Trapping

Ink trapping values are measured from the solid overprint patches of green, blue, and red and from the single ink film patches of cyan, magenta, and yellow. The trapping numbers relate to the proportion of the second-down ink that transfers to a previously printed ink. This is compared with the transfer of the ink to blank sheet. The trapping numbers do not represent accurate percentages of the ink film that is transferred to the first-down ink (due to failure of the law of additivity of densities). The trapping numbers are treated as an arbitrary scale. Higher ink trapping values are preferable to lower values.

To obtain ink trapping values, density measurements are made from three ink patches: the first-down solid, the second-down solid, and the solid overprint color. All measurements are made with the densitometer filter appropriate for the second-ink down color.

Ink trapping is an important print attribute to monitor during the pressrun for two reasons. First, the majority of colors in the average image are composed of various combinations of cyan, magenta, and yellow (e.g., green grass or blue skies), and second, the characteristics of ink transfer are subject to change during a pressrun as the rheological properties of the inks change. Trapping values are affected by several factors, including the absorptivity of the paper, the tack of the inks, and the press speed. It is difficult to isolate the cause of good or bad ink trapping because there are significant interactions occurring between the printing materials during the press operations. Ink and water interactions, for example, will affect the tack of the inks, which also changes the trapping values.