All Things first

FIRST is a document created by industry professionals to advance flexography to its fullest potential. It contains specifications and tolerances directly related to each flexographic printing segment.

***FIRST* Individual Certification** is a set of programs developed by FTA that trains industry professionals how to use those specifications and tolerances in their daily job activities.

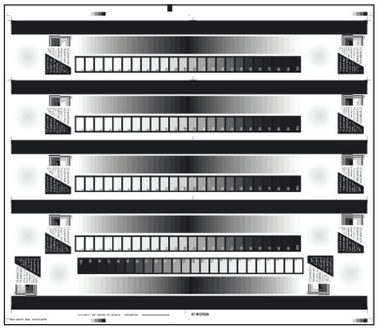
***FIRST* Company Certification** is offered through FTA for companies that have *FIRST*-Certified individuals who comply with the specifications and tolerances found in the *FIRST* document.

These artifacts represent the necessary steps to comply with *FIRST* Methodology for the reproduction of process color on a flexographic press. Following are the targets, along with their descriptions, used to reproduce this flexographically printed piece.

The **Linear Calibration Plate** target is used to verify the calibration status on multiple devices in the imaging and plate making process.

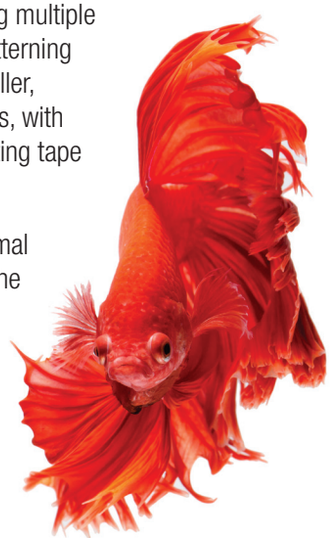
During the imaging process, this target is placed on all four corners of the entire sheet being imaged. After imaging, a transmission densitometer is used to measure both the density of the carbon mask and the dot area values to assure the imaging device is calibrated.

After the plate is exposed and processed, the dot area values are confirmed with a plate measurement device to assure the plate exposure device is performing optimally. Additionally, a micrometer is used to verify both the overall caliper of the plate and the floor relief.

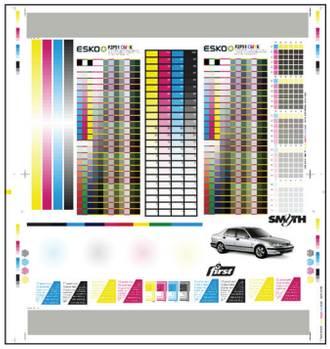


The **Press Optimization target** is used to determine the optimal prepress and press conditions. Prepress will image the target on different plate types using multiple screening, linescreens and surface patterning technologies. Using a banded anilox roller, the press runs the target multiple times, with multiple colors, testing different mounting tape compressions and press settings.

The final result will determine the optimal plate package to be used throughout the following pressruns. These results include plate type, screening, linescreen, mounting tape, anilox roller LPI/BCM, solid ink densities and press settings.

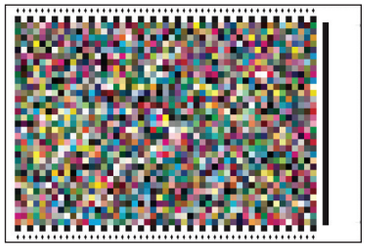


The objective of the **Press Fingerprint** is to measure and record the print characteristics of the press, operating with the specific materials and settings determined during the Press Optimization. **There are two methods for performing the Press Fingerprint: The Traditional TVI method or the Near Neutral Calibration (NNC) method.**



The NNC target used here employs G7 Methodology. NNC is based on an optimized tonal curve, the Neutral Print Density Curve (NPDC), derived from 3-color overprints (CMY) instead of single-color dot gain/TVI curves. Matching a common tonal curve derived from 3-color overprints corrects for dot gain/TVI, ink trap and gray balance simultaneously. Therefore, NNC curves are used in place of single-color dot gain/TVI curves.

The primary advantage of NNC are improved color matches across presses and print methods.



The **Press Characterization trial** utilizes the IT8.7/4 characterization target and applies only to process-color image reproduction. The IT8.7/4 target, printed during the press characterization trial, is used for color management calibration within the prepress system. The data derived from the printed IT8.7/4 target is used to create an ICC profile, which is then used to calibrate monitors, proofers and other color output devices to simulate the printing condition.

The Press Characterization target was not used in the reproduction of this sample. Instead of using the Press Characterization target, our ICC profile for this sample and all other color output devices used was GRACoL 2013 (ISO 15339 CRPC6).

The **Process Control Verification target** is used to verify both numerically and visually the outcomes of the optimization and fingerprint processes. The images are simply there for a visual verification.

The cyan, magenta, yellow, black and gray balance targets along the edges are supported by the target values derived from the fingerprint. The press operator uses these targets during the production run to print back to the optimized/calibrated condition.

For more information on *FIRST*, *FIRST* Individual Certification and *FIRST* Company Certification visit www.flexography.org

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