



msi

THE LABEL PEOPLE



What does G7 certification mean to MSI?

IDEAlliance's G7 is a revolutionary new methodology for calibrating proof-to-press and press-to-press across any printing method.

The G7 methodology includes revolutionary techniques for dramatically improving print quality and consistency.

Now that MSI has become G7 certified, we can provide consistent color for each run using new printing techniques and calibrated proofing systems, using the latest G7 methodology.

G7 methods have been adopted worldwide: files and proofs created anywhere in the world using the G7 methods, can be matched in any pressroom.

For MSI, G7 certification means improved color fidelity, press sheets that match the proof resulting in quicker make-readies, faster time-to-market, and lower manufacturing costs.

For our customers, the certification means that your supplier is seriously concerned about color consistency for each run, faster delivery times and better quality.

What does Chromatix® certification mean to MSI?

Chromatix® Certification establishes & promotes the adoption of industry standards and process methods necessary to consistently meet levels of sustainable, superior performance in quality and productivity.

This is a science leading to color performance and, MSI learned it from the Experts at Nazdar Consulting.

It's a step-by-step process designed to eliminate weaknesses, capitalize on strengths, and deliver consistent results. We are committed to getting your color right the first time, every time.

G7 and Chromatix certification bring to MSI a list of great *benefits*:

- Reduced labor costs
- Reduction of waste and scrap
- Stronger competitive advantage
- Added capacity in peak production periods
- Maximize existing resources
- High quality, repeatable and accurate color on time every time
- Consistent color between multiple printing devices, analog and digital printing.



**MSI is now Chromatix®
and G7 certified!**

For more information visit www.markingsystems.com

What is G7?

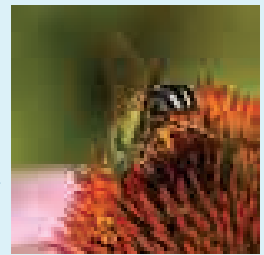


Developed by the IDEAlliance and the GRACoL Committee, G7 is named for its gray scale calibration technique and the 7 ISO ink colors it requires. The “G” refers to calibrating Gray values, while the “7” refers to the seven primary color values: Cyan, Magenta, Yellow, Black (K), Red (M&Y), Green (C&Y) and Blue (C&M). It describes how to use the principles of digital imaging, spectrophotometry, and computer-to-plate (CtP) technologies to achieve these color matches using quality inks and papers.



Essentially, G7 is a set of instructions on the methods for calibrating a press or proofing system based on spectrophotometry (colorimetric data) for gray balance instead of traditional densitometric (dot gain/TVI) methods.

G7 defines process controls for the neutrality and tonality of an image whether on a proof or from a press of any kind.



The G7 gray balance and Neutral Print Density Curves are being used to develop a family of characterization data sets (i.e. profiles) that for the first time have a shared visual appearance.

Once a press has been calibrated using the G7 standards, an ICC Profile can be generated for that press, that allows easy color consistency from the original electronic design to when it comes off-press.

MSI has calibrated the digital printing equipment and established ICC Profiles for the Sol-Jet, which has become the internal proofing system.



The ICC Profile is a digital file, that describes the color attributes of a digital device, by defining a mapping between the source (or target color space) and L*a*b* color space.

CAROUSEL



DIGITAL-ANALOG COMPARISON



SOL-JET



What is L*a*b* color space?

CIE L*a*b* (CIELAB) is the most complete color space specified by the International Commission on Illumination (Commission Internationale d'Eclairage, hence its CIE initialism). It describes all the colors visible to the human eye and was created to serve as a device independent model to be used as a reference.

The three coordinates of CIELAB represent the lightness of the color ($L^* = 0$ yields black and $L^* = 100$ indicates diffuse white; specular white may be higher), its position between red/magenta and green (a^* , negative values indicate green while positive values indicate magenta) and its position between yellow and blue (b^* , negative values indicate blue and positive values indicate yellow). The asterisk (*) after L, a and b are part of the full name, since they represent L^* , a^* and b^* .

Since the L*a*b* model is a three-dimensional model, it can only be represented properly in a three-dimensional space. Two-dimensional depictions are chromaticity diagrams: sections of the color solid with a fixed lightness. It is crucial to realize that the visual representations of the full gamut of colors in this model are never accurate; they are there just to help in understanding the concept.

Because the red/green and yellow/blue opponent channels are computed as differences of lightness transformations of (putative) cone responses, CIELAB is a chromatic value color space.

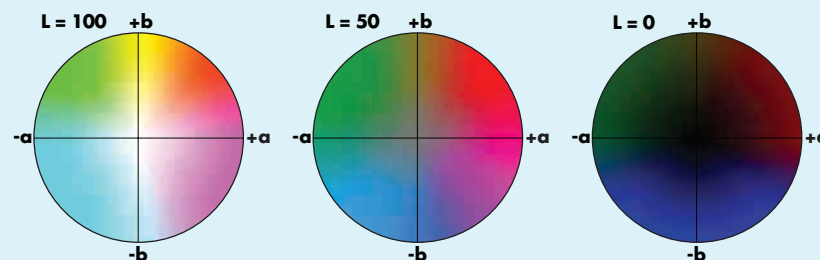
A related color space, the CIE 1976 (L^* , u^* , v^*) color space, preserves the same L^* as L*a*b* but has a different representation of the chromaticity components. CIELUV can also be expressed in cylindrical form (CIELCH), with the chromaticity components replaced by correlates of chroma and hue.

L = Luminance, the brightness or darkness of a color, (i.e. light blue vs. dark blue)

a and **b** are value scales for complementary colors:

a = a scale from red to its complementary color, green. ($-a$ = green, $+a$ = red)

b = a scale from yellow to its complementary color, blue. ($-b$ = blue, $+b$ = yellow)



* Lab Color wheels for illustrative purposes only.