



Formulate Accurate Ink Color for Packaging Faster and With Less Waste

As customers specify unique substrates and ink effects, ink manufacturers are struggling with additional challenges when managing the ink room. From initial formulation through customer approval, a formulation solution can consider substrate and viewing conditions to quickly calculate accurate color recipes with a focus on cost savings and environmental sustainability.

Challenges

Formulating accurate recipes and managing inventory brings many challenges:

- Manual mixing requires colorist experience and can take multiple tries to get a color match
- Physical samples can fade and visual evaluation is prone to human error
- Agreeing on a reference can require a lot of back and forth
- Unique substrates and special effect inks pose additional formulation challenges
- Incorrect formulations must be dumped or stored for future recipes
- Managing ink leftovers is tedious and expensive

Solution

To quickly formulate accurate ink color, minimize waste, and reduce inventory, ink formulators need a complete solution that includes digital color standards, a spectrophotometer, and formulation and quality control software. While physical standards can be helpful for visual color matching, digital standards provide precise up-to-date spectral data to create the most accurate recipes in formulation software.

InkFormulation Software (IFS) creates IFS assortments by learning how each ink performs on its own and calculating how base inks will work when mixed together. Measuring proofs with a spectrophotometer eliminates human error associated with visual evaluation. Measurements can be imported into quality control software to verify the proof is in tolerance before mixing the full batch. IFS can also store recipes for fast remix, workoff leftover ink in future recipes for a more sustainable process.

Results

- Reduces number of iterations to match a color.
- Decreases color matching time from hours to minutes.
- Reduces dollars spent on colorants (dyes/pigments/concentrates, etc.).
- Minimizes press downtime due to ink color adjustments.
- Improves sustainability processes by reducing incorrect mixes, minimizing reprints, and decreasing waste ink disposal cost.

90% of X-Rite customers confirm ROI within 12 months after installing a computer-aided color matching system. Visit www.xritephoto.com/documents/ROI/roi_InkFormulationPP.html to calculate your ROI.

APPLICATION BRIEF

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How it Works

1. Create an IFS assortment by using a spectrophotometer to measure a series of proofs of each ink to be included. These proofs consist of letdowns of each ink at various dilutions, which are then proofed/printed on the substrate to be used or proofed on contrast cards.
2. Establish the standard in IFS by measuring a physical sample with a spectrophotometer, importing a .cxf, or accessing a digital standard from PantoneLIVE.
3. Formulate by selecting which inks and substrates to use and whether to include any leftover inks.
4. IFS software uses this information to calculate the best color match. These results can be sorted by lowest cost or other performance factors such as Delta E, number of components, spectral deviation, etc.
5. Select a recipe. It will appear in the IFS user interface and can be scaled to meet batch size requirements. This recipe can then be produced and proofed in a lab for testing or sent directly to the press for printing.
6. During a print run, use the eXact spectrophotometer and ColorCert Desktop Tools to analyze ink color quality. Results can be sent back to the ink room for evaluation, and if necessary, reformulation or correction.
7. IFS recipes can be easily recalled for future jobs and used in MIS/ERP systems for estimating, quoting, tracking ink usage, and other purposes.

Featured Products



InkFormulation Software

InkFormulation Software (IFS) is a formula creation, storage, approval, and retrieval solution for offset, flexo, gravure, and screen-printing inks. It uses a job-based interface to group colors for efficiency, considers the substrate and viewing conditions when calculating recipes, simplifies definition of the right ink film thickness, and gives recommendations to work off in-house colors at various strengths to manage inventory.



ColorCert Desktop Tools

A modular quality assurance solution that enables print and packaging professionals to accurately create color specifications and evaluate color quality of inks. ColorCert directly connects with InkFormulation Software to send press measurements back to the ink room for evaluation and reformulation.



eXact Advanced

Ideal for ink rooms, the eXact Advanced handheld spectrophotometer can measure the color of ink and paper before, during, and after print production and analyze substrates with capabilities like Brightener Index Function for fast, accurate formulation.



Color iQC

Quality control and assurance software that analyzes why color errors occur, identifies leading indicators to enable adjustments to the process, and ensure final print meets color expectations. It also maintains a complete audit trail to improve communication across the supply chain so quality control professionals can focus on production speed and efficiency.



PantoneLIVE

A cloud-based architecture to digitally specify and communicate color standards between brands, ink rooms, and printers to ensure accurate and repeatable color regardless of substrate, printing technology, or ink type.

InkFormulation Software helps ink manufacturers formulate accurate recipes, reduce inventory and waste, lower disposal costs, and create a more sustainable print environment.