

Improved Density Control using; Troika Systems Anilox-QC/AMS equipment

Location: Paragon Labels, United Kingdom
 Equipment user: Michael Marshall, Labels Operations Manager, PPP.
 Date: February 2012 to September 2013
 Products used: Troika AniCAM 7.2 3D scanning camera, Anilox QC and AMS software

Paragon Print & Packaging are the leading manufacturer of printed packaging for the fresh & chilled retail food sector. With a turnover exceeding £175m, Paragon is home to 4 award-winning Label, Film, Board and Artwork divisions. As leaders in quality, service and innovation, Paragon offer a unique customer-driven approach to ensure a best-in-class packaging model is delivered to their 1,800 strong European customer base which includes all major retailers and manufacturers.

Given Paragon's strength in private-label food packaging across multiple substrates and processes, the ability to deliver on-shelf consistency across retail range, format and category, has meant that colour management and print consistency has become critical within the retail packaging arena. Added to this, growing requirements to increase efficiencies through customer-driven and group C.I. strategies Paragon chose to adopt a total quality management system, incorporating, flexoplasts, inks and the Troika AniCAM, with Anilox-QC/AMS software, for precise measurement of anilox volumes.

Based on the research at Paragon Print & Packaging the AniCAM appeared to provide a solution to the unknown factor of anilox volumes. Consequently with the introduction of the Troika AniCAM at Paragon, for the first time exact volumes were able to be captured and the information managed in a database.

THE PRINTED RESULTS WERE PROVEN TO CORRELATE WITH THE ANILOX ENGRAVING AS FOLLOWS:

	Band 1	Band 2	Band 3	Band 4
Manufacturers volume & depth	3.1 cm ³ /m ² 11μ	3.2 cm ³ /m ² 12μ	3.3 cm ³ /m ² 13μ	3.5 cm ³ /m ² 15μ
Cyan Density	1.14	1.17	1.20	1.22
Magenta Density	1.17	1.18	1.19	1.24
Yellow Density	0.96	0.98	1.01	1.04
Black Density	1.43	1.46	1.52	1.62

The difference in density on all colours became discernable to the eye when band 1 was placed on top of band 4 – approximately 3ΔE.

Paragon Print & Packaging volume to density print tests. (Paragon/Troika July 2011)

Tests showed that a volume change of 0.4cm³/m² would approximate to 3ΔE on press.

With the Brands demanding at least 2.0 ΔE , or down to 1.5 ΔE as a tolerance in print Spot Colour verification, Michael Marshall knew that managing his anilox would assist him to meet their requirement with the minimum of make-ready time.

By measuring anilox's, which were identified and cleaned or refurbished as required, and newly received anilox's meant that incorrectly engraved anilox's could be identified and rejected. The anilox database AMS provides both a management overview and, for the press operator, an individual roll view to confirm suitability for the print job.

Following a full 18 months of working with the AniCAM and AMS Michael Marshal has seen an improvement in volume control aiding colour consistency, allowing him to achieve densities tolerances of less than 2.0 ΔE and is pleased to endorse the improvements gained by using the Troika- Systems AniCAM and Anilox-QC products, adding "The Troika Anicam allows Paragon Print & Packaging to control the Anilox volume as a known critical input in regard Colour Management. Rolls are now appraised on entry and through the cleaning schedule with full visibility across the group using the Anilox Management System (AMS)"

"Having adopted this process we rapidly justified six units across our sites. We are confident our work for our customers will meet and continue to meet print criteria set by them, and that when quoting for new business, have at our disposal a high quality print management solution that we know provides our customers with the highest print quality", quoted Michael Marshall.

This allows Paragon to improve density control by:

1. Ensuring their aniloxs are engraved correctly and are closely matched in volume.
2. Use standard ink and minimise ink adjustments.
3. Prove the quality of their anilox cleaning.
4. If sets of aniloxs are matched from one press to another to achieve similar density, jobs can be more easily be spread from one press to another.

This is allowing Paragon to:

1. Improve density control.
2. Increase productivity.
3. Reduce wastage.
4. Reduce deadlines by load sharing across presses.
5. Guarantee **RIGHT FIRST TIME (RFT)** ink to press.

The ability for Paragon to measure and qualify the condition of their anilox has greatly helped in achieving these targets.

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