

IPAC – Quality Inside – Made in Europe

First inline colour measurement in operation

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Another milestone has been reached in the objective evaluation of surfaces these days. For the first time it has become possible to carry out an objective colour evaluation of multi-coloured surfaces during the running production process. Ten years after the premiere of the ACMS colour measurement system, which is now in use worldwide, IPAC has now launched a tool for inline colour measurement, which has been in practical use for just a few weeks.

With the ACMS colour measurement system, Improve Process Analytics and Control GmbH (IPAC) in Villach (Austria) developed a tool for objective colour evaluation of multi-colour surfaces, that was successfully introduced in 2007 initially by decor printers and later also in the wood-based panel industry. With the system, discrepancies between supplier and customer in the assessment by the human eye could be eliminated. ACMS stands for Advanced Colour Measurement System and makes it possible for the first time to evaluate decorative surfaces in the quality of the trained human eye and compare them with standards. It also made IPAC the technology leader for colour measurement of decorative surfaces. ACMS can be used, for example, to check during the manufacture of laminate flooring whether unwanted changes in colour brilliance have occurred during impregnation of the decors as well as during subsequent pressing. “Today, ACMS is the only colorimeter accepted for decorative surfaces for colour matching and certification of colour impression and contrast. The ACMS certificate has become a de facto industry standard,” explains Harald Jordan, founder of IPAC and managing partner.

The managing director sees objective colour evaluation as an essential contribution to ensuring the production and delivery of defined quality at reduced costs and thus to achieving sustainable production. Improved productivity and increasing customer satisfaction not least ensure the long-term profitability of those companies that use the ACMS system. The decor printers were the first to be convinced of these advantages. Based on the positive experiences in the field of classic printing and production processes, the wood-based panel companies later also decided to replace the visual assessment in their process with the use of objective measurement data.

Inline follows offline

Up to now, however, hyperspectral colour measurement has been carried out offline, which is why, in the wake of increased user requirements and new technologies such as digital printing, the desire was expressed to further develop the system in the direction of inline control.

In Fagus-Grecon, Jordan found a competent partner who acquired a majority stake in IPAC in 2016 and thus made the development of the new ICMS colour measuring system possible. By acquiring a stake in the Austrian company, Fagus-Grecon was also able to further expand its expertise in surface inspection and quality assurance, for which the Alfeld-based company has been known for over 40 years. For example, Fagus-Grecon is successfully represented in the wood-based panel industry with the “Superscan” optical measuring system, which is used for the inspection of raw panels and large decorative panels and which was presented at this year’s Ligna in an enhanced version with new features. “For our small company, Fagus-Grecon’s participation meant economic security and support in the areas of technology, sales, marketing and service, from which IPAC’s customers also benefit,” comments the IPAC Managing - Director in retrospect.

Inline inspection of edges

After ACMS had been installed in several locations at the wood-based panel company Egger in the past years to replace the visual colour assessment, it was now also the Austrian wood-based panel producer who was the first to integrate the new Inline Colour Measurement System (ICMS) into the production of digitally printed plastic edge bandings in Brilon in March 2019 and thus set new standards in industrial digital printing. In digital printing in particular, efficient colour matching by constantly changing important process parameters such as ink, paper and coating plays a decisive role.

“With the recent technical acceptance, ICMS is now the world’s first spatially resolved inline colour measuring system,” says Jordan. The multispectral inline scanner can be used for all conceivable materials (paper, foil, wood, plastic, ceramic, mineral) and printing processes (gravure, digital printing, flexo printing, offset printing, screen printing). Like the offline system, ICMS is able to reproduce the optical colour impression perceived by a well-trained and healthy human eye and subject it to a comprehensive, objective evaluation.

Another customer benefit, according to Jordan, is fully automated production monitoring, detection of colour drifts and real-time production fluctuations. In addition, the user would save costs by eliminating the need for physical samples and the associated logistics, such as edge patterns or roller row pressing. Last but not least, the IPAC founder sees an advantage for the employees, as the psychological strain in the process is eliminated by the objective evaluation of the colour impression. Errors caused by fatigue, distraction or deception are ruled out by the use of ICMS. As the system also benefits communication along the entire value chain, ICMS is another important step towards digitizing quality assurance, Jordan is convinced. *ba*

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