- Funnels jobs submitted to a Fiery digital front end or to Fiery Central through configurable workflows.

Fiery JobMaster

Advanced make-ready software makes complex document preparation tasks simple and fast.

- Offers intuitive document assembly including fully visual tab insertion and design, page-level ticketing, finishing, scanning and powerful late-stage editing features.
- Speeds up design and job submission processes using a flexible in-RIP solution with interactive and fully visual job previews.

Fiery Central 2.0

Combines multiple Fiery Driven™ and other select digital production printers into an optimised, centrally managed production system.

- Balances production output by splitting colour and black-and-white pages, and by routing all or part of jobs to the most productive and cost-efficient printers.
- Includes configurable error rerouting that automatically sends a job to a similar printer to continue production.
- Works with EFI's Digital StoreFront® Web-to-Print, plus EFI's MIS/ERP and scheduling software, for accurate production reporting and seamless job submission.

Fiery Workflow Suite also has integrated applications for:

- job submission - EFI Digital StoreFront
- colour profiling and management - Fiery Color Profiler Suite
- make-ready - Fiery Impose and Fiery Compose
- prepress - Fiery Graphic Arts Package, Premium Edition
- variable Data Printing capability - Included in Fiery digital front ends.

For more information on EFI's Fiery Workflow Suite,
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STATE OF THE ART MACHINE CALIBRATION FROM ELOVIS

Nonwoven, fleece, felt plus composites based on these materials are in increasing demand. Applications for these materials are expanding and manufacturers are increasingly required to produce diverse composite materials. European manufacturers are well-equipped with modern and efficient machinery for this trend. But for those who are entrusted with the measurement and billing of the production, the different nature of materials poses a significant challenge. Each uncounted sold running meter and material which is damaged by pressure marks means loss. Furthermore conventional tactile measurement procedures often do not meet the European Measurement Instruments Directive (MID 2004/22/EC) requirements.

The following article describes the laser-based, non-contact ELOVIS µSPEED system which solves these problems.

More exact, by Laser

TWE Dierdorf GmbH & Co. KG is a typical manufacturer with the above situation. TWE produces high-quality fleece for the automotive, health and construction industry. Since 2011, all machine counters are calibrated regularly with the ELOVIS non-contact laser-based speed and length measurement systems. "To calibrate our machines, which produce difficult to measure products, we needed a reliable and easily deployable measurement technology. We can now sincerely recommend the ELOVIS laser-based sensors", says Wolfgang Schoop from the QA department. "Strips and pressure marks on the material surface and thus waste during the calibration measurement are avoided with the laser. The laser measurement is independent of the material and enables permanent high accuracy measurements." Edith Müller (QA-manager) adds: "In addition, the use of non-contact length measurement quickly shows where an action point is and where the laser technology should replace a tactile measurement system. Non-contact means no wear and no down time for maintenance thus lowering operating costs."

"Current tactile methods often reach their technical limits already below 40 m/min or as soon as a material change occurs", explains Bernd Engelsdorf, managing director of ELOVIS GmbH, Karlsruhe, Germany. "The non-contact µSPEED sensors use specific doppler method, developed by ELOVIS and certified by the German national metrology institution (PTB, Braunschweig) in compliance with the European Measurement Instrument Directive (MID 2004/22/EC). The optical sensor is advantageous because it has no speed limitation, operates independent of the material and has no effect on the measured object." These were decisive factors for TWE. By means of non-contact length measurement the calibration of the measurement devices now is much quicker, easier and more accurate despite elastic materials and varying thickness.

State of the art – Machine calibration

In practice, the calibration of a machine counter is performed with the standalone µSPEED sensor as a parallel measurement. Installation and adjustment of the sensor takes less than five minutes due to suitable aids, which also avoid misalignment and thus measurement errors. By comparing the counter value before, during and after the creation of a material roll on the one hand, the absolute deviation in length and on the other hand through multiple measurements the repeatability of the machine counter is determined. Driving the system at different speeds and accelerations, the influence of these parameters on the accuracy of the system counter can be determined as well.

Finally running of goods with different thickness, structure, elasticity, ... on the machine during calibration, gives a clear picture of the performance of the existing machine counters. The

adaptation of the counter is made accordingly, if possible. Via a PC/ laptop or an external display or operating unit, the measured values can be displayed, studied, stored and processed. The error-prone archiving of documents is avoided. Instead the measured values are stored in a machine calibration file. "Independence of the µSPEED sensor to material, thickness, colour, coating, line speed, acceleration and with a long-term stable accuracy of better than approx. 0.5 meters at 1000 meters measured length, the method is far superior to conventional alternatives", adds Bernd Engelsdorf.

Machines requiring obligatory calibration and those with inaccuracies caused by material variations or due to slippage for example are best equipped with a permanently laser sensor. The sensor provides direct exchange of data with the operational data collection and allows receipt, label, logo, product data and barcode printing. When used for cutting tasks, prefix lengths can be created, so that the sensor outputs signals for pre-contact/braking ride and stop/cut.

From November 2016 on, the type-approval for length measurement systems is no longer valid, even if the old certificate is said to be valid indefinitely. This means action is needed for companies who are selling their products by length. The respective regional verification office (or notified body) will accept from November 2016 only those length measurement machines which meet the Measurement Instruments Directive of the European Community according to MID 2004/22/EC.

Even if there is no legal obligation forcing calibration, composite and nonwoven manufacturers and their customers benefit from the non-contact length measurement. Bernd Engelsdorf comments: "Beyond the pure fulfilment of legal requirements, the use of calibrated measurement instruments creates customer confidence and transparency in production planning and control."

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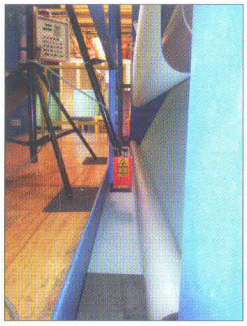
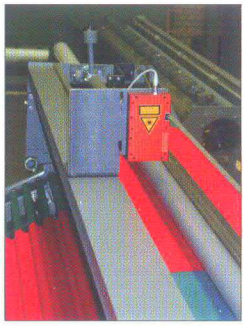
Picture 1: portable calibration measurement at heavy fleece before winding

Picture 2: portable speed measurement

Picture 3: portable calibration measurement at light fleece



Picture 4: portable calibration measurement at heavy fleece



Picture 5: measurement in inspection machine according to MID 2004/22/EG standard

KARL MAYER'S IOM-DOUBLE TECHNOLOGY IMPROVES EFFICIENCY IN DENIM PRODUCTION

Combined technologies open up more opportunities

In the clothing sector, denim is an indigo blue "evergreen". This tough, twill fabric is normally dyed with C.I. Pigment Blue 66 and C.I. 73000 in the Colour Index, and is produced by processing undyed weft yarns with ring-dyed warp yarns. Ring dyeing is a characteristic feature of denim production. In the conventional process, the yarns are either processed as a hank (rope) or spread out next to each other (slasher) and only the sheath is dyed. The dye is applied in several treatment stages.

This process, which is still used in traditional denim production, is carried out nowadays using the latest machine technology, and KARL MAYER is the leader in producing the processing machines.

This European manufacturer supplies high-quality, innovative machines that consistently meet the changing challenges of the market and develops both economical and ecologically sound preparatory machines for the weaving sector. KARL MAYER always takes into account the economics and end-uses when working on new innovations. For example, many different, flexible, optional application techniques are integrated into the machines to enable the customer to react flexibly to different market requirements.

The different chemical methods for finishing the yarns, such as a caustic treatment, dyeing and sizing, offer a huge potential for increasing the efficiency by developing synergistic processes and combining processes within the denim processing chain.

Principles: the ROPE- and SLASHER-DYEING process

Nowadays, different functions and processing steps are integrated into the weaving preparatory processes to increase quality, flexibility and economic viability. Combining the key processes of dyeing and sizing has proved to be very effective. Depending on the make-up of the yarns, the semi-continuous, open-width dyeing/sizing process, known as the SLASHER-DYEING Process, and the discontinuous hank/rope dyeing with subsequent sizing, known as the ROPE-DYEING Process are used in denim production in practice.

The first step in the SLASHER-DYEING Process involves producing beams by winding 300-700 parallel yarns being fed from packages. In the next stage, the yarns from 8 to 24 beams are then taken off together under a controlled tension and passed through the dyeing