IfraExpo 2003 report: Materials

Suppliers show a wide variety of printing materials in Leipzig

Once again, IfraExpo proved to be an international marketplace for suppliers of materials for newspaper production. Numerous manufacturers presented a wide range of products suitable for covering all conceivable production requirements. Besides materials, test processes, tracking solutions and methods for improving print quality were shown, some examples of which are presented in the following.

Manufacturers of paper, ink, roller coverings, rubber blankets, damping and cleaning agents as well as printing plates informed about their product programmes, designed not only to correspond to the latest technology but also to ensure simple use and good printing performance.

Siegwerk Druckfarben (www.siegwerk.com) featured its new heatset and cold-set ink series for different areas of application and specifications under the motto: “Some like it hot, some like it cold.”

The hubergroup (www.mhm.de), represented by Michael Huber München and Hostmann-Steinberg, focused on its service for the ink sector in its presentation. The HOT (Hit Order Transfer) system is designed to provide transparency for materials storage and automate routine processes, such as scheduling, ordering, materials booking.

BASF (www.basf-drucksysteme.de) presented the IfraExpo was MacDermid, www.macdermid.com).

Paper manufacturers were represented with a wide range of paper products. New members to the ranks of exhibitors in this market segment were Papierfabrik Palm (www.papierfabrik-palm.de) and Myllykoski (www.myllykoski.com with Lang Papier, Rheinpapier and Utzenstorf Papier).

Deinking (i.e. removing ink from paper) is a key process in recycling recovered waste paper. Recovered waste paper is used, among other applications, as raw material for newsprint production. To obtain the necessary brightness, it is important the ink should be removed efficiently and at the same time other contaminants, such as adhesives, are separated. INGEDE (the international research association for deinking technology, www.ingede.com) presented its activities in Leipzig. INGEDE promotes deinking research and cooperates with other players in the recycling sector.

A good printed result depends not only on reproduction, ink, and paper quality, but also on the functionality of the impression rollers working under strong dynamic forces. The coated rollers should neither shrink nor swell, nor should they favour ink misting and splashing. In contrast, damping rollers should transfer a consistent, thin layer of fountain agent across the entire printing width to the non-printing parts of the offset plate.

The trend in press development towards increasingly higher speeds, the use of different inks, fountain agent additives and roller washing agents, together with the parallel expectations of higher standards of printing quality, have meant increasing demands. Besides the technical printing requirements, there are also physical and chemical specifications that are of significant importance for the selection of suitable raw materials for the production of roller coverings.

Today’s rollers are manufactured with rubber qualities offering corresponding form stability, good transport properties for water and ink as well as resistance to wear and tear, and thereby contribute to a better printing quality, longer useful life, reduced cleaning and less adjustment. Examples are Westland (www.westland-worldwide.de) with Weronews inking rollers, Felix Böttcher (www.boetcher.de) with specially adapted roller materials for inking and damping rollers, Sauer (www.sauerroller.com) with the Eurowob-NC (New Concept) inking roller covering and Eurodamp-NC for damping rollers.

Felix Böttcher also offered a special surface coating for web guide rollers that is designed to reduce ink set-off accumulating on the guide rollers and prolong the intervals between cleaning, also a roller manufactured for CFK (chemical fibre reinforced plastics).

Blanket manufacturer Contitech (www.contitech.de) presented various products for newspaper printing, e.g. Cont-Air Evolution, and a new blanket for alcohol-free heatset printing, Cont-Air Zenith.

As an IfraFirst, Océ (www.occ.com) showed, with the Newspaper System 7000, that the digital process can be applied for the decentralised production of newspapers also on newsprint, which opens up a range of possibilities for paper manufacturers.

Material testing

Material functionality proves itself in the printing process, but tests allow materials and material combinations to be examined for their properties and suitability for combination under defined conditions and

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Therefore troubleshooting to be investigated with reduced material consumption. For the first time, two companies offered material testing systems at the IfraExpo. emco (www.emco-leipzig.de) presented measuring methods and devices for material testing, especially for paper. Besides the configurable automatic testing systems, individual devices are also available for quality control.

The dynamic penetration measuring device emcoDPM (also in combination with strain measurement) offers an interesting solution. This is a method for measuring the properties of paper and other materials, fluids, and the dynamics of their interaction. The principle is based on an ultrasound measurement where the paper sample is brought into contact with a fluid in a measuring cell between the ultrasound transmitter and ultrasound receiver. Microstructural and micromaterial changes in the ultrasound range result in a change of the sound intensity.

The emco MBS modular image analysing system Dr. Praast can be used to evaluate surfaces, structures and marks, e.g. scarring.

Best Quality Print (www.bestqualityprint.com) offers an independent research and test service. The offset process is simulated under exactly controlled conditions.

In particular, the interaction between ink, fountain agent and paper is tested and their compatibility analysed. This is done to develop proposals for improving the process parameters and in this way help reduce costs. Shifting the tests from the press to the laboratory can save material, time and money. Based on the tests, it is possible to develop a customer-specific benchmark database for the production operation concerned in each case.

Material tracking

Tracking the paper reel through the printing plant is an important part of material tracking. OBU, Rochester, U.K., uses RFID (Radio Frequency Identification) tags for tracking the reel material flow at printing operations, and re-useable plastic tubes. On show on the distribution partner Cross Graphics (www.crossg.com) was the OBU Paper Tracking System. The narrow tag (433 MHz, active) is positioned in the reel core, has a reading distance of 30 m and can be re-used (battery life: five years).

This system is being tested and used at Trafford Park Printers Manchester, U.K. Reports about this experience were given at the Ifra-Newstec Conference in May 2003 in Brighton and at the Excellence in Production Conference held following this year’s IfraExpo in Leipzig.

Denex (www.denex.de) supplies production management systems, such as ReelTrack and CopyTrack, that are integrated into the higher-level InfoTrack system. Besides bar codes, the Denex ReelTrack system supports the radio-based recording of electronic identification marks.

Web cleaning

Paper dust particles can accumulate on the rubber blanket during the printing process. The greater the accumulation or its uneven distribution on the blankets, the fewer impressions can be produced between two blanket-cleaning processes.

Present at the IfraExpo for the first time, PDM, with TwinTurbo (www.twinturboo.com) presented a web cleaning system that reduces soiling during the printing process (see more on this in last month’s nt, page 58.) With this system, paper dust, loose fibres and deposits are blown upwards and suction-removed before the web enters the first printing unit. <