

36. Munich Adhesives and Finishing Symposium MKVS

Printing, gluing, finishing

For three days, from October 24 to 26, 2011 the 36th Munich Adhesive and Finishing Symposium summoned some 270 participants from more than ten countries to their traditional event place, the Conference Center at Sheraton Arabellapark Hotel in Munich.

This year's topic, "Printing, Gluing, Finishing" was a particular broad one which was well-reflected by the wide-spread scope of 30 contributing presentations including a plenary lecture and accompanied by a panel discussion. Following, a series of glimpses will be presented the selection of which by no means does reflect any objectionable weightage.

Process standard for packaging printing

M. Dreher (DFTA Technology Centre, Stuttgart, Germany) opened up the scene with his contribution on "The first Truly Working Process Standard for Packaging Printing?". Process standards as indispensable tools for exact communication of colours for commercial printing applications completely fail if applied to packaging printing due to the vastness of substrates and printing conditions. The Technology Centre of German Flexo Technical Association (DFTA), therefore, has newly developed a process standard which allows simplifying the method for generating and maintaining colour profiles involving an individual control strip for each set of printing conditions printed alongside the respective printing job. This new method is currently under intensive practical evaluation at the DFTA laboratories.

UV curing

O. Starzmann (IST Metz, Nürtingen, Germany) elaborated on "UV-LED - A new



270 participants from more than ten countries attended the 36th Munich Adhesives and Finishing Symposium MKVS



The panel discussion was dedicated to the heatedly debated topic of Printed Electronics, which was presented and elaborated on by a group of experts: Prof. Dr. Martin Dreher, DFTA; Dr. Martin Krebs, Varta Microbattery; Prof. Dr. Gunther Hübner, HdM; Michael Schmalz, Kroenert; Wolfgang Mildner, PolyIC; and Thomas Kolbusch, Coatema (from left to right).

UV Source for the Printing and Coating Industry". The general importance of UV curing for coating, printing and adhesive applications is manifest beyond any doubts. UV LED sources exhibit some specific advantages such as the almost monochromatic and "cold" light, the specific well-suitedness for cycle process applications and format variability due to the easiness of switching single sources on and off, as well as the inherent energy effectiveness as a result of the lack of warm-up phase and a broad dimming

range. Future improvement of this promising technology will be centred around higher power levels and price reduction at large volumes.

Application of novel barrier adhesives

K. Noller (IVV Fraunhofer Institute, Freising, Germany) in his presentation "Application of Novel Barrier Adhesives in Multilayered High-Barrier Laminates for the Encapsulation of Flexible Electronics" dealt with the vast field of functional

polymer films. Such materials can be custom designed e.g. towards selective permeability for gases and vapours. OPV (organic photovoltaic) modules do require particularly high bond strength for their lamination adhesives, furthermore very good clarity and high damp heat stability are indispensable. Spot and bubble formation are causing (potential) serious problems. Solvent-free, UV-curable epoxy and acrylic based adhesives turn out as promising candidates for the required high-barrier laminates with very low oxygen transmission rate and WVTR, excellent adhesion, high temperature and humidity resistance and, hence, their applicability for flexible electronics.

Extrudable M-resins for reclosable film applications

C. Robert (Bostik, Ribécourt, France) introduced "Extrudable M-Resins for Reclosable Film Applications". The eponymous newly designed M-resins exhibit a number of properties perfectly suited to the reclosable packaging field. Among these there are a MFI compatible with the requirements of a standard extrusion line and, at the same time an aggressive pressure sensitive response at a wide temperature range, which both

together are reflecting a close to perfect combination of adhesion and cohesion properties. Applied in reclosable packaging area as a hot melt PSA M-Resins offer a number of very practical advantages such as lamination on existing state-of-the-art equipment, no necessary training of the final user, decisively contributing to overall sustainability by avoiding any secondary packaging (e.g. aluminum foil) and excellent organoleptic performance.

Olefin based hot melt adhesives

A. McLennaghan's (DOW, Horgen, Switzerland) elaborations dealt with "Olefin Based Hot Melt Adhesives: Innovations for a more Sustainable Tomorrow". More sustainable bonding solutions are exhibited by novel olefin elastomers and plastomers becoming accessible through a new class of polymerization catalysts (post-metallocene catalyst). Among the advantages there are low specific gravity, good wetting characteristics, reduced waste and energy consumption. Particularly in case and carton sealing hot melts reduced tackifier requirement turns out favourably envisaging the limited availability of these and other formulation components (e.g. waxes) on the chemical

raw materials markets. Saving natural sources represents the key term fostering such developments taking into account Life Cycle Analysis (LCA) and in the future the adoption of bio-sourced feedstock.

Panel discussion

The Panel Discussion placed in the centre of the first day of the Symposium was dedicated to the burning topic of Printed Electronics rolled out and propagated by a renowned group of experts originating from industry (T. Kolbusch, Coatema; W. Mildner, PolyIC; M. Krebs, Varta Microbattery; M. Schmalz, Kroenert) as well as from university (M. Dreher, DFTA, G. Hübner, HdM). Within a lively exchange between the panel and the audience striking features of the most important applications such as OLED's (photovoltaics, displays, lighting), electronic compounds (e.g. RFID's) and integrated smart objects were introduced and discussed and their often baffling future prospects considered.

The next Symposium, focusing on "Pressure Sensitive Adhesives", will be held from 22 to 24 October at Sheraton Munich Arabellapark Hotel in Munich. ■

For further details and the call for papers please go to www.mkvs.de

Study on the market for flame retardants

Flame retardants, which are primarily used in the manufacture of PVC construction materials, insulation, rubbers, adhesives and paints and varnishes, are growing in importance. In a recent study, the market research institute Ceresana Research forecasts that global flame retardant revenues will rise to around USD 5.8 billion by 2018. Demand is mainly growing in the Asia-Pacific region, with China showing the largest increase of 7% per year.

Fire resistant products are tailored to specific applications and developed in close cooperation with manufacturers, processors and users of end-products. Innovations in this area are focusing on developing more environmentally friendly products and using new materials. Examples in-

clude nanotechnology, micro-encapsulation and intumescent systems, which expand when exposed to heat and form a protective layer. However, the most widely-used flame retardant is still aluminium hydroxide (ATH), which is expected to continue dominating the market until 2018.

This new report offers a detailed analysis of the flame retardant market on the basis of the consumption of each type of product, turnover and prices. The introduction summarises the different types of flame retardants and provides information about regulations and health issues. The report also contains a list of manufacturers with 246 company profiles. It is available in English and German and forecasts market opportunities and risks up to 2018.