

News

uv.eb WEST 2005 touts tech, market advancements

By Editor in Chief Mark Spaulding

More than 400 energy-curable process professionals were on hand to learn about the latest equipment, material and market advancements at uv.eb WEST 2005. Organized by Chevy Chase, MD-based RadTech Intl. North America, the inaugural event was held Feb. 10-11 in Los Angeles.

Along with lectures on basic and advanced ultraviolet/electron-beam (UV/EB) technologies on Day One, market-specific sessions made up the bulk of the conference on Day Two. These included technologies for composites, aerospace and defense, wood finishing, medical devices, plastics and electronics.

Four presentations highlighted the UV/EB Curing for Printing & Converting session.

EB for flex packs

Electron-beam instant curing for flexible packaging has made significant strides in recent years, says Rick Sanders, marketing/sales mgr. for Energy Sciences, Inc. (Wilmington, MA). EB wet-on-wet CI-flexo printing, EB coatings and EB laminating adhesives are major areas of development.

Envisioning tomorrow's complete EB-converting system, Sanders described a typical 10-color CI-flexo press without interstation IR dryers. After the web is printed, an EB laminating adhesive is applied atop the wet-trapped ink, and a second web is nipped to the base substrate. An EB topcoat could then also be applied to the construction. Finally, the web is cured downstream by a single, low-voltage EB unit at speeds of up to 1,100 fpm. The new method of EB printing and coating in-line eliminates any work-in-process time delays typically required for curing before product shipment, Sanders says.

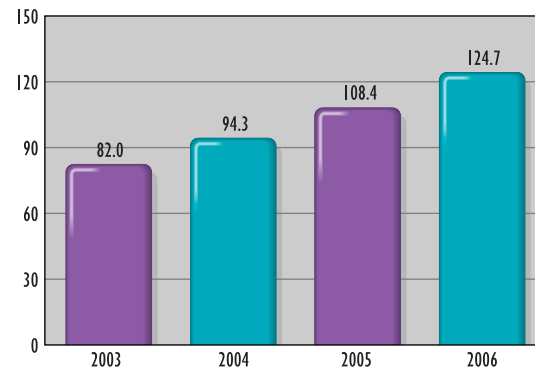
In his presentation on EB laminating adhesives, Steve Lapin, vp-technical director for Northwest Coatings LLC (Oak Creek, WI) covered the advantages of the new material as well the results of tests the supplier recently conducted. Currently, seven converters nationwide have commercialized EB laminating in eight plant locations, he says.

Such products are one-part systems that require no mixing, are low viscosity to allow room-temperature application with minimal misting, and that achieve immediate bond strength via EB curing. Bonding tests with multiple substrates show excellent film-destruct properties as well as good dry and water-soak bonds, Lapin says. Lab studies on ink bonding show printed films are being successfully EB-laminated at speeds to 750 fpm.

Hybrid inks and coatings, particularly for sheetfed-offset printing, are a special blend of UV and conventional materi-

UV/EB MARKET FOR FINISHED PRODUCTS RISING 15% A YEAR

(formulated product in 000 metric tons)



Source: RadTech Intl. North America

als, which must be dried by UV energy, explained Tony Bean, mgr. of energy-curing inks for Sun Chemical Co. (Carlstadt, NJ). These new materials run on conventional presses, require UV lamps placed between print stations as well as the end of the press, provide gloss similar to offline UV coating, and allow higher production speeds. Successful applications for hybrid UV inks/coatings include metallized-paper labels and paperboard cartons, in-mold labels, poly-coated paperboard and even lenticular printing, Bean says.

Numerous environmental benefits

Rita M. Loof, director of environmental affairs for RadTech Intl., gave details on the regulatory compliance and eco-benefits of UV/EB curing for graphic arts. Among its advantages: Letting printers stay below the threshold of federal, state and local regulation through volatile organic compound reduction, eliminating the need to install pollution control devices, and providing near-zero emissions.

UV-inkjet digital printing was another popular session at the conference. Market drivers include higher demand for short-run package printing, new formats such as flatbed printers and new UV-curable inkjet inks, says Stewart Partridge of Web Consulting (Drayton, England). Demand for flatbed UV-inkjet printers is growing at about 18 percent a year, he says, and within 10 years, UV inkjet will be a bigger market than today's UV-screen printing field. ■

Converting