

Wood and Building Products Focus Group Presents UV Application and Curing Demo

By Don Hart

If you attended the RadTech 2010 Technology Expo and Conference, you may have gone home with a UV-coated wooden ruler as a souvenir courtesy of Lintech, RadTech, Cytec, Black Brothers, American Ultraviolet, R&D Coatings, Inc. and Mid-America Protective Coatings. These companies supplied volunteers, equipment, coatings and their time to produce the coated rulers that were printed by LinTech's Randy Waldman.

The demonstration area contained a differential roll coater that was run by Steve Elliot, manager of Southeast sales for Black Brothers' North Carolina facility. The demonstration included a lab-size, UV-curing unit provided by Harry Bloom of American Ultraviolet. The UV demonstration project coated and distributed several thousand rulers

at the event in an effort to promote solvent-free, UV-coatings technology for wood and building products.

During the demonstration, the rulers were lightly sanded, then roll coated with UV wood topcoat/sealer provided by R&D Coatings, Inc. (McKees Rocks, Penn.) and Cytec (Atlanta, Ga.).

Thanks to Mike Zupancic and Donnie Eshenbaugh from R&D Coatings Inc. for their assistance with the demonstration.

The demonstration was especially helpful to those who are new to the technology or anyone who was interested in the roll-coating process for UV materials. The roll-coating process is a very efficient process that is 98 percent efficient in its use of the coating, since the coating is not required to be atomized before applying. This UV roll-coating process is commonly used to UV coat sheet goods such as cabinet sides and most pre-finished hardwood flooring. It was one of the first processes used to apply UV-curable coatings.

Many younger attendees and those only newly familiar with UV commented that they had never actually seen a UV coating process and were appreciative of the opportunity to see this demo live on the floor.

More than 90 percent of pre-finished hardwood flooring is finished by using multiple coats of this UV roll-coat process. UV coatings are used in the hardwood flooring industry due to their durability, abrasion resistance, chemical resistance and scratch resistance. Roll-coated UV coatings are



Don Hart (Mid-America Protective Coatings), Michael DeBracco (R&D Coatings) and Steve Elliot (Black Brothers) demonstrate UV wood curing.

generally solvent-free and inherently green due to the lack of solvent emissions in the roll-coat and curing process. UV-cured coatings can also be packed or stacked immediately, unlike most water-based and conventional coatings that must be racked for a time before shipping or assembling.

This roll-coat/UV-curing process also is being adopted by the cabinet industry, drawer box industry, shelving and many other sheet-good industries where flat calibrated product can be used. Roll coating is not the only way to apply UV coatings, but it was one of the first processes to be used and is the most widely adapted coating method for applying UV-curable coatings.

The ink and adhesives industries use similar processes for applying inks and coatings and many of their processes can use UV-cured adhesive and inks to speed their processes just as the wood components industry has done. ▀

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He is also co-chair of RadTech's Wood & Building Products Focus Group.



Steve Elliot and Don Hart sand rulers.



Steve Elliot runs the differential roll coater.