

PRESS RELEASE

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Quantitative Analysis of UV LED Performance by the TFC-9000™

CHICAGO, December 28, 2005 – The CON-TROL-CURE Thin Film Calorimeter (TFC-9000™) measures the curability of inks, coatings and adhesives and ensures that they are curing consistently, batch-to-batch. A need was identified to be able to accurately measure curing effectiveness when using different UV LED wavelengths. So, UV Process Supply developed a procedure using the TFC-9000™ to quantitatively evaluate the curing of polymers with UV LED's.

In this example, a UV curable coating sample was evaluated by curing it 4 times, each with a unique UV LED wavelength. The curing was observed and measured by the TFC-9000™ and the resultant curves were overlaid for evaluation. The TFC-9000's™ measured results (see graph in the attached image) clearly show that while 3 lamps cured the sample in approximately the same amount of time, the UV LED lamp at 415nm cured the coating significantly better than the other 3 UV LED wavelengths (the 450nm lamp exhibited no curing effectiveness on this material.) The best curing wavelength is identified as the curve with the highest peak of heat.

The time to peak (which is the cure rate) was also able to be measured. This determines the number of LED's needed to achieve the desired speed for each customer's specific process. In this test, to achieve the required cure rate for the specified application line speed, a linear array of 300 LED's was determined to be needed. Such a conclusive test was either impossible or prohibitively expensive to perform without the TFC-9000™.

The TFC-9000™ is also able to create a profile of the adhesive itself. 5 retains from 5 different batches made over the last 12 months were provided as test samples. A battery of tests with the TFC-9000™ created a profile of the adhesive's curability range. This profile enabled a clear determination of how many additional LED's needed to be added to the application to ensure cure, regardless of the adhesive's age.

Since 1979, UV Process Supply has provided goods and services for the UV curing market. These products reinforce UV Process Supply's position as *the complete source for all your UV curing needs*. For details on the TFC-9000™, contact UV Process Supply at their toll-free number 800-621-1296 or 773-248-0099. UV Process Supply is also accessible via fax at 800-99FAXUV or 773-880-6647, via email at info@uvps.com, or via their website at www.uvprocess.com.

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