Special edition for Melodie

We were not surprised at the large number of responses that we received from the special edition for Melodie. Melodie was personally known to many of the folks in NDT, and others knew of her through her work here at Met-L-Chek. We really appreciate the sentiments, condolences and other kind words that we received. These came from societies that we belong to, from competitors, and from distributors, customers, and just plain folks who are in the NDT field. Many of them came from far away places in Europe, Asia, South America, and the Near East. Thank you, thank you.

Melodie in costume for a halloween party

Hydrophilic Emulsifier Spray & Pre-rinse

Our recent comments in the August 2008 "Penetrant Professor" about the water pre-rinse used with hydrophilic emulsifier and the testing of the emulsifier spray concentration were partially, but not entirely correct. It is true that when the emulsifier is sprayed onto the part, there is usually no reason to use a pre-rinse since the emulsifier spray is "generally" used as an expendable and not reused. It has been pointed out to us by a well known aerospace level 3, that there are, though rare, instances when the

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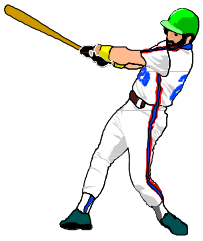

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emulsifier spray is collected and reused. In such an application it would be necessary to utilize a water pre-rinse to reduce the penetrant contamination of the hydrophilic remover spray intended for reuse. It is also true that the collected spray material concentration would have to be monitored to insure that it is controlled to be less than 5 %. The test piece performance test would also require close monitoring for increased background fluorescence caused by penetrant contamination of the collected spray.

Our comments were based on the common applications of hydrophilic emulsifiers. It is noteworthy that we are not the only one's not familiar with collecting emulsifier spray for reuse. In the current balloting on AMS-2647C there were comments made by other "experts" that indicated that they also were not familiar with the reuse of emulsifier spray and the needs for a water pre-rinse and subsequent concentration monitoring.

This only proves no one has all the answers, not even the Prof!

Interesting Calls & Penetrant Brightness Measurments

We received a call from an individual who said he was having difficulty in making fluorescent brightness tests. It turns out that he was apparently using a filter type fluorometer, and was attempting to get brightness readings using the liquid penetrant in a cuvette. His problem was that he said that he was unable to wash out the cuvettes with water after making the tests. That portion of the problem was easy to remedy, because he was trying to wash out a post emulsifiable penetrant with water, and that does not work. But the larger question was that the method he was using does not conform to any known specification or testing procedure, and does not give a result that is useful. While one can certainly get a value for the brightness this way, it does not measure the brightness of an indication resulting from a crack.

The brightness test that is outlined in ASTM E-1135 recognizes this, and uses a method that emulates what is found in actual practice. This is that the penetrant exuding from the crack indication is a very thin film that has been absorbed into the developer. To make the emulation, a sample of the penetrant is diluted with a suitable solvent and then this is soaked into white filter paper. The brightness of this filter paper is then measured and compared to a standard.

To then measure the brightness of this prepared filter paper sample, one needs a filter fluorometer. Originally, two such instruments were approved for use. These were the Coleman and the Turner, both of which were intended for measuring the brightness of liquid samples in cuvettes, but these instruments could be modified to hold the filter paper samples and measure their brightness. Neither of these instruments is manufactured today, and they have been largely replaced with the S-291. This instrument is available from NDT Italiana, and inquiries should be directed to info@ndt.it.

The Penetrant Professor

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