

WATER CONTENT ANALYSES

There are several specifications that require the periodic analysis of "in use" water washable penetrants and lipophilic emulsifiers, to determine their water content. The maximum allowable amount is five percent, and the tests must be made monthly.

Of course, auditors check the records for these tests and the test results, and everything must be in apple pie order. We have found that test laboratories sometimes make small errors that then cause problems when they are audited. The laboratory procedures used to determine the water content are called out in ASTM E-1417, paragraphs 7.8.2.4 for penetrants and 7.8.2.5 for lipophilic emulsifiers. These paragraphs read as follows:

7.8.2.4 Water Content of Non-Water-Based Water-washable Penetrants - Water content of non-water-based Method A penetrants shall be checked monthly in accordance with Test Method D 95 or Karl Fischer Method as described in Annex A1. If the water content of the in-use penetrant exceeds 5%, the penetrant shall either be

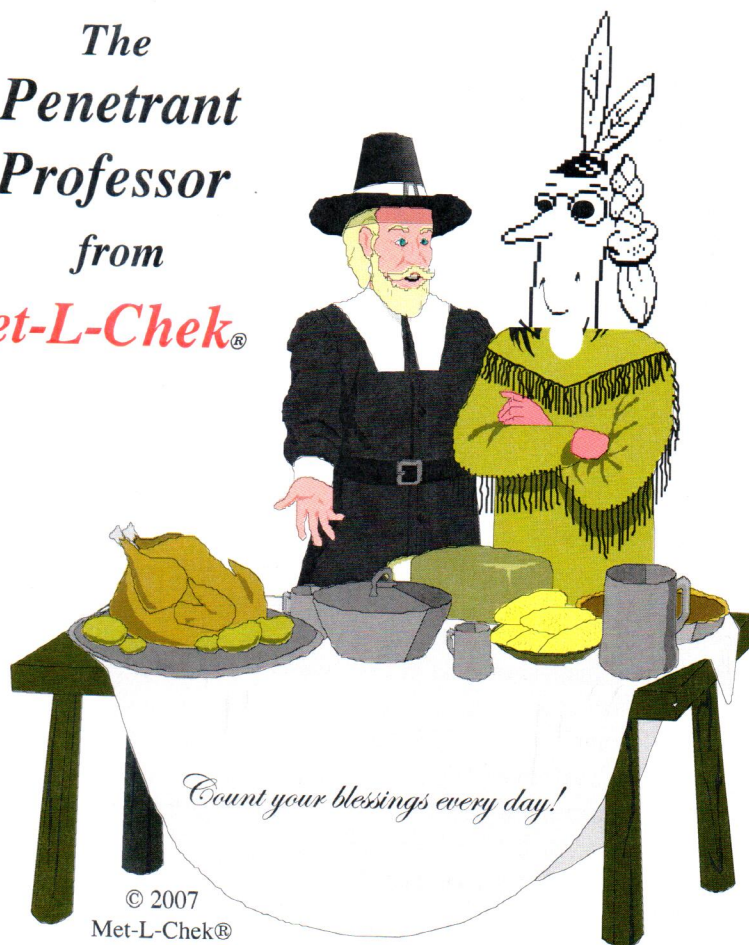
discarded or sufficient unused penetrant added to reduce the water content to below 5%.

7.8.2.5 Lipophilic Emulsifier Water Content — Water content of lipophilic emulsifiers shall be checked monthly in accordance with Test Method D 95 or the Karl Fischer method as described in Annex A1. If the in-use emulsifier exceeds the water content of the

original (unused) emulsifier by more than 5 % it shall be discarded or corrected, as appropriate.

The detailed instructions for performing the analyses are listed in ASTM E-1417 in the annex. The penetrant test facility must be careful when issuing a purchase order for these tests. The best way is to word the order so that it specifies that the test be made according to paragraph 7.8.2.4 or 7.8.2.5, as appropriate. Wording the PO this way then allows either of the approved test methods to be used. Where we sometimes find that there is a problem is when the PO specifies that the test be made by ASTM D-95, and we use the Karl

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Happy Thanksgiving

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