

# Penetrant Professor from *Met-L-Chek*<sup>®</sup>



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## The June 2013 issue of Materials Evaluation

We want to call attention to the June issue of our **ASNT** magazine, **Materials Evaluation**. It contains three articles that focus on penetrant inspection – one that discusses the inspection of welds, and two that are timely and relevant to the movement to bring about control over the Ultraviolet lights used in fluorescent penetrant inspection.

The article by **Rick Lopez** is a discussion and summary of his careful research into the characteristics of the different types of UV-A lights presently available, and the responses of fluorescent penetrants and fluorescent magnetic particles to these lights.

The article by **John Brausch**, of the **U.S Air Force** is directed at what characteristics of UV-A sources are the optimum for penetrant inspection. His article summarizes

his work and the **ASTM** committee work that has been underway for more than a year to identify and quantify these optimum characteristics, with the end result that there might be a future specification that identifies them. We think that everyone who is involved in penetrant inspection should read these articles and understand them.

On a related note, we can see the very positive effects of **Nat Moes**, the present editor of the magazine. The articles have matured into a high state of professionalism that reflects the high standards that Nat is bringing to his job. We are pleased with what he has done.



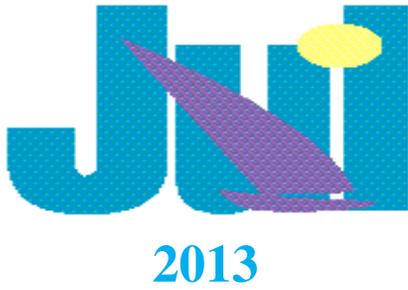
## Shelf Life vs Tank Life

We frequently get questions concerning the shelf life of our products. Shelf life is a term that can be defined differently by different manufacturers, and we explain what is the practice for Met-L-Chek. This information is also contained in the literature on the Met-L-Chek web site. Met-L-Chek Company defines shelf life as the period of storage time, at ambient\* conditions, during which an inspection material will retain its functionality. The shelf life of most Met-L-Chek Company inspection penetrant materials is five (5) years from date of batch approval. The shelf life of aerosol inspection materials is also 5 years provided that the aerosol propellant has not escaped and the can still sprays. This shelf life period is exceeded by most materials and the 5 year period is provided only as a storage guide. Older materials performance may be verified through the Met-L-Chek Company

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Met-L-Chek Company, 1639 Euclid Street, Santa Monica, California, 90404, U.S.A.

Phone: 310-450-1111 Fax 310-452-4046 Email: info@met-l-chek.com Web: www.met-l-chek.com



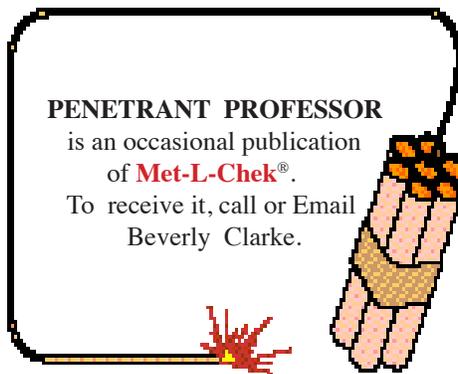
The distinction between “Shelf life” and “Tank life” is important to make. For Met-L-Chek products that are in a tank and in use, there is no reason to discard the product and to replace it with fresh product if the shelf life has passed. Shelf life has no further meaning once the product is in the tank.



**Pen-Chek®** recertification program. In fact tests done by Iowa State University and Sandia National Laboratories have shown that penetrant materials 10 years and older show no signs of degradation in performance due to age.

Now we come to the term “Tank life”. Once the containers of Met-L-Chek products have been opened, shelf life no longer applies. If the product is in a tank or other container where it is used, the term “tank life” applies. For example, if a penetrant has a shelf life that expires on January 6, for example, and the penetrant was charged to a tank prior to that date, the product is OK to use. When January 6 has passed, the shelf life date has no meaning because the product is in a tank. Now “Tank life” is what counts. Continued usability of materials may be verified through the Met-L-Chek Company **Pen-Chek®** or **MagChek™** recertification program. The **Pen-Chek®** program conforms to the requirements of **AMS-2644E** and **ASTM E-1417**. The **Mag-Chek™** program conforms to the requirements of **ASTM E-1444**. For some applications, there are penetrant tanks that have Met-L-Chek products in them that are five or more years old. The periodic tests show that the material is satisfactory to use, and there is no reason to discard the material and to replace it with fresh product.

This information is on the Met-L-Chek web site and may be easily reviewed there. Or, for clarification, please send us an email or phone us.



### Preview of ASNT Fall Meeting Las Vegas, NV Nov. 4 - 7, 2013

As penetrant manufacturers, we are not in a position to witness the every day experiences of those who use our products. Because of this, we rely upon our readers to feed us information that we can, in turn, relate to you. The idea is to pass along what happens at place “A” and in situation “B” so that if you run into the same situation, you will be aware of what someone else has done to deal with it. Along these lines, **George Hopman**, of NDE Solutions, has a wealth of

hands-on experience that includes all kinds of situations dealing with the use of penetrants. He will be presenting a talk at the Fall ASNT meeting in Las Vegas that we believe every person who uses penetrant inspection could benefit from. It is a bit unusual for us to highlight a meeting or a talk this far in advance, but we think that it would be worth the time and effort for level 3’s, those involved in QC, and other penetrant practitioners at large to listen closely to. We have had a sneak preview and know that George will reveal instances where the “Emperor has no clothes”. Our advice is to go to the Fall ASNT meeting, attend George’s talk at the Penetrant session, and be amazed.



**The Penetrant Professor**