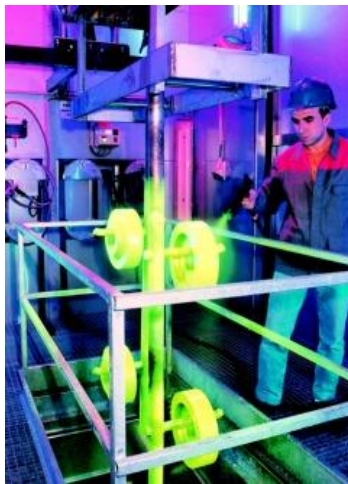


## **Non-Destructive Testing: Durability the best distinction in the long-term** *Chemetall Ardrox products give a quick and easy result for welds and surface inspection*

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### **Introduction**

In line with its aim to strive for an optimal surface quality for steel or stainless steel, Vecom is a distributor for Chemetall Non-Destructive Testing (NDT) penetrants, which are also



known as "red/white sprays". Vecom has had this role for a number of years. Due to the specialist nature of NDT, unfortunately it is sometimes overshadowed by cleaning, pickling, passivating and phosphating steel. With this Technical Bulletin we would like to highlight the use of non-destructive testing for welded joints (and surfaces).

### **Penetrants – reliable after careful preparation**

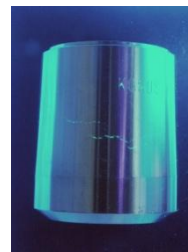
NDT penetrants need no further introduction for most constructors. For people who are getting acquainted with these products for the first time the following is a brief outline of the uses and advantages of penetrants as a test method. In general, systems that are under pressure (from steam, gas or extreme strains) must be inspected at critical points. Due to the application of heat, welded joints and the surrounding surface may develop hairline cracks that are not visible with the naked eye. These cracks are easy to detect by means of penetrants. Another application is in testing surfaces that have been cast or pressed. Hairline cracks may also develop in the surface under the influence of the strains that are involved in these processes. In such cases, magnetic



penetrants can also be the solution (if the material properties are suitable). Penetrant tests are often already specified as a requirement by the end customer but can also be used as a preventative inspection before (expensive) third parties are called in to carry out an x-ray inspection for example.

### **Pre-treatment – a determining factor!**

It might sound obvious, but a good pre-treatment (cleaning) of the surface determines the accuracy of the result of NDT with penetrants to a great extent. Unfortunately in practice, cleaning is often carried out too quickly or easily. Sometimes



no cleaning is done at all as the surface appears to be clean. Just as the hairline cracks are not visible to the naked eye, the contaminants in them can also not be seen. If grease or oil residue remains in a hairline crack then there's only a small chance that this will be detected with an NDT penetrant inspection.

### **Accurate but safe for the user and the environment**

The Ardrox 970x and 981x Ardrox series are new developments in the water-washable and post-emulsified fluorescent penetrants. They are based on the latest surface-active technology (free of nonylphenols) and have a low odour, a low toxicity and a minimal impact on the environment. All of this of course without compromising the clear and crisp indications due to the extremely low residual background. In addition to forming the indication, excellent water-washable and "bleed-out" properties are essential for a clear and satisfactory application.

### **To measure is to know**

In addition to the penetrants and/or magnetic products, Chemetall supplies a wide range of NDT equipment and accessories such as the new UVE / Lux light meter. This was designed to perform simultaneous measurements of both white light and ultraviolet light. The Chemetall UVE-LUX light meter is compact, lightweight and robust, and as such extremely suitable for the NDT environment.



## Interested?

Vecom can easily demonstrate whether your current products and methods work. By using a standardised block in which various degrees of damage have been included it is possible to determine independently and reliably whether the methods and products used are sufficiently suitable. These standardised blocks are expensive, however on request a test can be carried out on location using one of Vecom's blocks under the supervision of a Vecom advisor.

Would you like further information? You can contact Vecom using the details given below:

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*Chemetall and Vecom, a conscious choice. In addition to being an international supplier of chemical "specialties" (which, by the way, are not sold by Vecom) Chemetall is one of the key brands in NDT. The company deals directly with the aerospace and military industries. In the Benelux, Vecom is the partner that offers support for the other industries.*

*The special chemicals for penetrant inspection and magnetic inspection are an important part of the Chemetall portfolio. The products are developed specially to meet the needs of different markets. This leads to an almost endless range of products requiring clear guidance and good support. Almost all of the products satisfy the strictest requirements of national and international industry. References for aerospace and military quality standards are: AMS, EN ISO, Pratt & Whitney, GE, Rolls-Royce, CFM and MTU.*