

Handheld XRF for FAC

Corrosion Prediction by Cr in Carbon Steel

The DELTA Takes Detection Limits of Chromium (Cr) in Carbon Steel to an All Time Low!

It has been shown that small amounts of Cr in carbon steel pipes significantly reduce the rate of flow accelerated corrosion. Consequently, highly accurate measurements of low levels of Cr in carbon steel are critical for predicting the end of life in these pipes. In general, Cr is present in carbon steels as a residual tramp element ranging from 0 to 0.25%. The critical level of Cr monitored for FAC prediction is at about 0.04% (400ppm). The DELTA Premium, the latest development in HHXRF, goes to an all time high in accuracy and an all time low in detection limits for Cr and other metals. It detects trace levels of Cr as low as 0.004% (40ppm) in alloys; and 0.01% (100ppm) in carbon steel for FAC inspections. Although HHXRF is a non-destructive technique, accurate low Cr analysis of in-service and oxidized pipes can require some sample preparation to remove surface material before measurements. Portable angle grinders with alumina grinder disks are recommended. Please contact your local Olympus Innov-X representative if you have any questions.

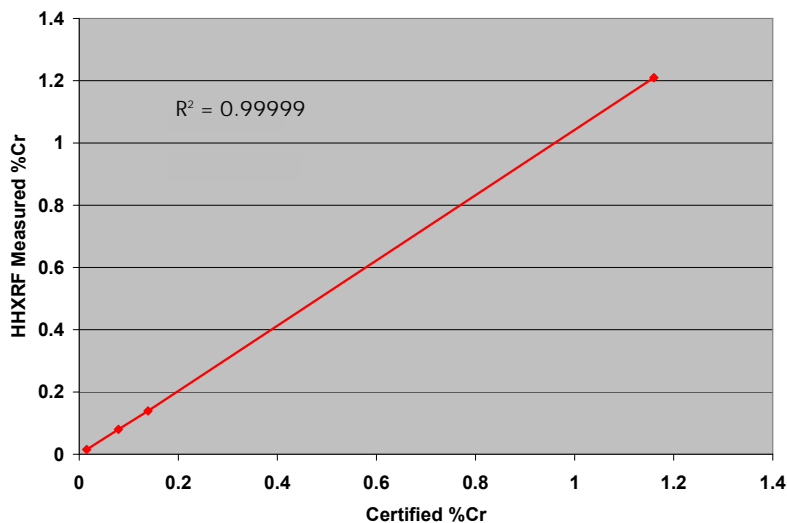


Photo by Kenneth Hynek

Comparison of DELTA Premium Handheld XRF with Certified Assays of Trace Cr in Carbon Steel

Standard	Certified %Cr	HHXRF Measured %Cr	HHXRF %Cr +/-
IARM 229A	0.015	0.015	0.002
IARM 28E	0.079	0.080	0.005
IARM 33D	0.139	0.139	0.006
IARM 35F	1.160	1.210	0.006

DELTA Premium Analysis Time: 120sec Beam 1; 30 sec Beam 2



Excellent Accuracy and Low Levels of Detection are Critical for Predicting Accelerated Corrosion

In addition to testing for flow accelerated corrosion, the power supply industry depends on HHXRF analyzers for startups, shutdowns, general maintenance, and trouble shooting. Managers cannot afford to depend on out-of-date and unreliable equipment, or untimely support of equipment. They also cannot afford to fall behind the technology curve. The analytical capabilities of HHXRF continue expanding, and new features continually enable operators to be more effective and efficient. Upgrade your HHXRF to the DELTA – the latest HHXRF loaded with innovative features and backed by the industry's best service and support.

APPLICATION BRIEF

