



Case Study – Welding Rod/Wire Inspection

Test Type: Feature Verification

Customer Problem

An equipment manufacturer used two different types of welding rod for production of various products. They found that they were occasionally using the wrong welding rod, which could result in poor quality including material distortion, cracks and the potential for early corrosion. The manufacturer had to rely on records of the weld rod/wire coils from the vendor which was subject to human error.

The Solution

The manufacturer decided to install eddy current test systems on all of their welding lines. Custom eddy current coils were developed to fit inside of the welding wire drums. The eddy current coils compared a reference welding rod sample with the actual rod being used. Stainless steel inserts were used in the coil housing to protect it from wear. Figure 1 shows the actual eddy current coils used.

The welding rod/wire drums were located within three separate vacuum chambers, so the system had to work remotely. The eddy current instrument was able to track all three chambers simultaneously. The industrial I/O on the eddy current instrument communicated with the stations PLC and was able to indicate when a dissimilar welding rod was being used in any of the chambers.

For more information visit our website at www.criterionndt.com or call Criterion NDT at 253-929-8800.

Equipment: [InSite CT](http://www.criterionndt.com),
Custom Eddy Current Probe



Figure 1 - Eddy Current Probe with Reference and Test Weld Wire



Figure 2 – Eddy Current Signal Response

