

Assessing The Quality Of Automated And Manual Coke Drum Welds From American And Japanese Coke Drum Manufacturers Using Acoustic Emission Monitoring During Code Required Hydrotest

Claudio Allevato - Stress Engineering Services, Inc.

Thomas Farraro - Stress Engineering Services, Inc.

ABSTRACT

Coke drums operate under severe cyclic loads. The quality of the automated and manual welding processes used to join rolled plates, have a significant impact on the fatigue life of the vessel. Acoustic emission inspection is often used to inspect these welds for fabrication flaws, which could initiate fatigue damage. The code required hydrostatic pressurization is the ideal time to detect, locate and size these potential discontinuities for immediate repair still at the shop. A comparison of results produced by inspecting a number of Japanese and American manufactured drums is presented.

KEY WORDS: acoustic emission, coke drum, vessel, testing, welding, AET, monitoring.

Allevato, C., Farraro, T., "Assessing the Quality of Automated and Manual Coke Drum Welds from American and Japanese Coke Drum Manufacturers using Acoustic Emission Monitoring During Code Required Hydrotest," .