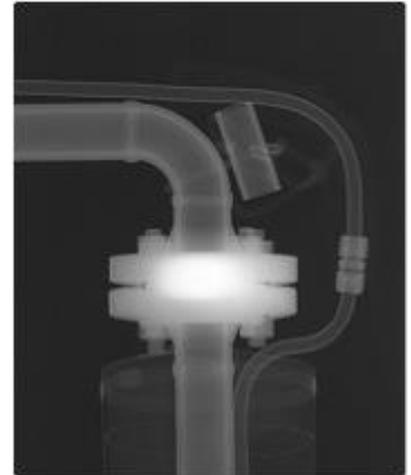


Computed Radiography - CR

Computed radiography (CR) is used to assess internal or external corrosion/erosion losses in process piping, pressure vessels and valves. Based on it, one can estimate remaining thickness and wall losses. The computerized images allow easy data sharing and result in significant improvements in radiographic inspection productivity as well as faster identification of defects.

IRISNDT APPLIES CR TO INSPECT

- Piping for internal corrosion, for corrosion under insulation (CUI) and for localized losses (such as those which develop in sulphuric acid service)
- Valves and their internals for internal or external corrosion/erosion
- Piping and valves for build-up of products and for blocks
- Newly fabricated welds according to:
 - ASME Section V for pressure vessels
 - ASME B31.1 and B31.3 for piping
 - CSA Z662 for pipelines
- For losses in boiler tubes at temperatures of the order of 350 °C (662 °F)
- Asbestos insulated equipment and assess losses around the circumference (not only those perpendicular to the radiation source)
- In-service welds



ADVANTAGES



- The images can be readily shared, e-mailed and stored electronically by anyone needing reliability information for the equipment.
- The imaging plates practically eliminate re-shots by providing a greater range over which exposures can be useful.
- Significant exposure reductions
- Reduction of exposure times from 50-70% when using IR 192
- Similar or better results are obtained when utilizing Se 75, Co60 and X-rays
- Highly reproducible
- Data is stored for future comparison or audit

LIMITATIONS

- Radiation safety considerations are the same for CR as standard radiography
- An equipment reading station is required to scan the imaging plates
- Physical space and on-site electrical power are required to set up the equipment
- Requires access to both sides of the part

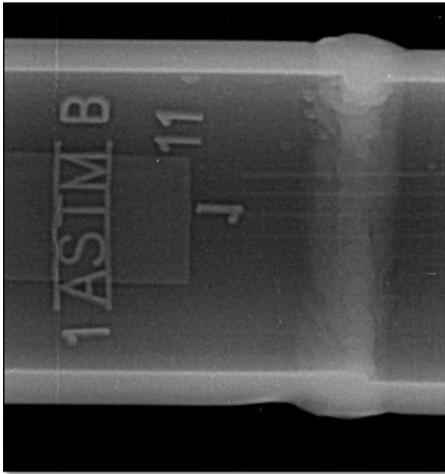
Computed Radiography - CR

CR FUNDAMENTALS

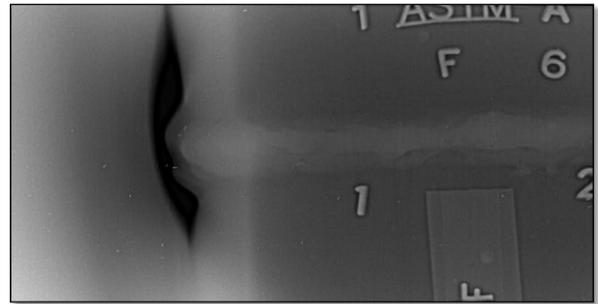
Computed radiography (CR) uses phosphor-imaging plates instead of film to store radiographic inspection results. CR imaging plates are exposed as per standard radiographic testing, but the images are laser scanned from the plates into a computer system. Using powerful software one can then analyze, manipulate, print and store the images for future review. The remaining wall thickness can then be determined for ASME code weld interpretations and wall loss evaluations.

Computed radiography can be performed on the same materials and in the same situations as standard radiography. IRISNDT uses software, which allows the user to acquire, review, report and archive inspection data. The software also permits image enhancement and data sharing to provide significant improvements in productivity and faster identification of defect indications.

ASME Section V Code Shots of NPS2 Sch 80 Pipe



Superimposed Shot



Contact Shot