

Radiometric Profiling [RP]

Capabilities for Non-Destructive Testing of piping compared to *Radiography [RT]*

Examining the Non-Destructive Testing (NDT) options for pipe testing will ensure you and/or your mechanical contractor are able to make the best choice while considering efficiency, effectiveness and scope. The details below compare the capabilities of RP, which is best for testing more insulated and bare piping in less time and results in more data points across the system than with RT, which can be used to test a limited number of locations in piping during times when radiation exposure is not an issue.

	Radiometric Profiling [RP]	Conventional Radiography [RT]
Tests insulated piping 'as is'	Capable. Jacketing and insulation remain intact, testing does not breach the vapor barrier.	Capable. Jacketing and insulation remains intact, testing does not breach the vapor barrier.
Zero radiation exposure risk	Capable. There is zero radiation exposure risk. Testing can occur during business operations without interruption.	Not Capable. Higher risk of radiation exposure, test area barricades and operations interruption may be required.
All piping can be tested	With exception. Can interrogate all piping up to 24" diameter, including nested and suspended.	Not Capable. Piping larger than 6" diameter, nested piping, suspended piping and elbows cannot be tested.
Real-time results	Capable. Additional locations can be tested based on results to determine extent of damage without impact on job scope.	Not Capable. Results are not available in the field, image is processed and analyzed post-evaluation
Fast evaluation	Capable. Average rate of data collection is 200 test locations per day.	Not Capable. Average rate of data collection is 20 test locations per day.
Measures entire pipe profile, 360°	Capable. Measures the entire circumference of the pipe, top and bottom, wall to wall.	Not Capable. Captures image of 1 or 2 walls, accuracy is dependent/sensitive to orientation of film and radiation source.
Water or ice in insulation	Capable. Detected and measured in insulated piping in its current state.	With exception. Evidence of wet insulation can be detected (not measured) in some piping.
Pipe wall thickness	Capable. Measured in bare and insulated piping in its current state.	With exception. Measured in bare and insulated piping in its current state, accuracy sensitive to orientation.
Pipe size + schedule	Capable. Measured in bare and insulated piping in its current state.	With exception. Measured in bare and insulated piping in its current state, accuracy sensitive to orientation.
Corrosion	Capable. Evidence is identified in bare and insulated piping in its current state.	With exception. Measured in bare and insulated piping in its current state, accuracy sensitive to orientation.
Erosion	Capable. Evidence is identified in bare and insulated piping in its current state.	With exception. Measured in bare and insulated piping in its current state, accuracy sensitive to orientation.