

Radiometric Profiling [RP]

Capabilities for Non-Destructive Testing of piping compared to *Ultrasonic Thickness Testing [UTT]*

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 UTT, which is best for testing a limited number of locations in piping where the insulation is compromised and replacement is necessary.

	Radiometric Profiling [RP]	Ultrasonic Thickness Testing [UTT]
Tests insulated piping 'as is'	Capable. Jacketing and insulation remain intact, testing does not breach the vapor barrier.	Not Capable. Requires holes or removal of jacketing and insulation and surface prep, breaches the vapor barrier.
Zero radiation exposure risk	Capable. There is zero radiation exposure risk. Testing can occur during business operations without interruption.	Capable. There is zero radiation exposure risk. Testing can occur during business operations without interruption.
All piping can be tested	With exception. Can interrogate all piping up to 24" diameter, including elbows, nested and suspended.	Capable. Can interrogate all piping including nested and suspended.
Real-time results	Capable. Additional locations can be tested based on results to determine extent of damage without impact on job scope.	Capable. Additional locations can be tested based on results to determine extent of damage, may impact job scope.
Fast evaluation	Capable. Average rate of data collection is 200 test locations per day.	With exception. Average rate of data collection is 50 test locations per day on insulated piping and equipment.
Measures entire pipe profile, 360°	Capable. Measures the entire circumference of the pipe, top and bottom, wall to wall.	Not Capable. Measures only where transducer is in contact with pipe (about a 1" diameter area on a single side).
Water or ice in insulation	Capable. Detected and measured in insulated piping in its current state.	With exception. Wet insulation is detected with visual only after insulation is removed.
Pipe wall thickness	Capable. Measured in bare and insulated piping in its current state.	With exception. Based on estimates, prone to erroneous or inconclusive results on pitted or frozen pipe.
Pipe size + schedule	Capable. Measured in bare and insulated piping in its current state.	With exception. Size is determined with visual after insulation is removed.
Corrosion	Capable. Evidence is identified in bare and insulated piping in its current state.	With exception. Corrosion is detected with visual after insulation is removed. Corrosion may prevent measurement.
Erosion	Capable. Evidence is identified in bare and insulated piping in its current state.	With exception. Erosion is detected after insulation is removed.