

1.3.14. PHASED ARRAYS FOR GENERAL WELD INSPECTIONS

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Ultrasonic phased arrays have proven to be a very appropriate inspection technique for weld inspections, especially encoded arrays with linear scanning. The flexibility of phased arrays allows them to be tailored to almost any weld profile and predicted defects. Besides showing the normal advantages of phased arrays for welds (high speed, reduced costs, full data storage, increased productivity), the paper will illustrate sample weld inspection Scan Plans and coverage. In addition, some codes have been adapted to the use of phased arrays, so these inspection techniques are effectively controlled and approved. TOFD (Time-Of-Flight Diffraction) can be added for improved detection capability and better sizing. Back diffraction also offers significant benefits for accurate sizing.