

1.3.11. 3D WELD VISUALIZATION USING MANUAL PHASED ARRAY

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Since ultrasonic imaging has been introduced along with the use of portable phased array Flaw Detectors the reports of the test results gain a new value. Recording and storing of all maximum indications per cycle(angle) and gate allow an easy reconstruction of the respective reflector locations within the inspected weld cross section including the HAZ. This reconstruction, performed offline on a PC simply uses the data from the inspection stored on a removable memory device (SD-Card). It allows the display of the test results from all perspectives: Top, Side, End, and even a 3-dimensional image of the gated weld volume. Results will be presented for real weld inspections with different weld geometries, and procedures will be compared to the conventional inspection technique, to TOFD, and to X-ray films from the corresponding sections. Our results envision a change in the daily work of weld inspection, and may gain in the importance of UT inspection compared to other NDT techniques.