



## Unique to the market

- Immediate results and a permanent record
- Modular scanner system
- No requirement for water supply to couplant
- Versatile for inspecting pipes with:
  - outside diameters from 90-900mm
  - wall thickness from 8-72mm
  - straight pipe configurations
- System can be adapted for pipes outside these ranges if required
- Proven capability to detect:
  - contamination
  - under penetration
  - lack of fusion
  - cold fusion
- Critical flaw sizes and acceptance criteria determined for different welding procedures and PE materials

### Further information:

Doug Wylie  
doug.wylie@twi.co.uk

Mike Troughton  
mike.troughton@twi.co.uk

Ivan Pinson  
ivan.pinson@twi.co.uk

Tel: +44 (0) 1223 899000  
Web: [www.twi-global.com/img](http://www.twi-global.com/img)

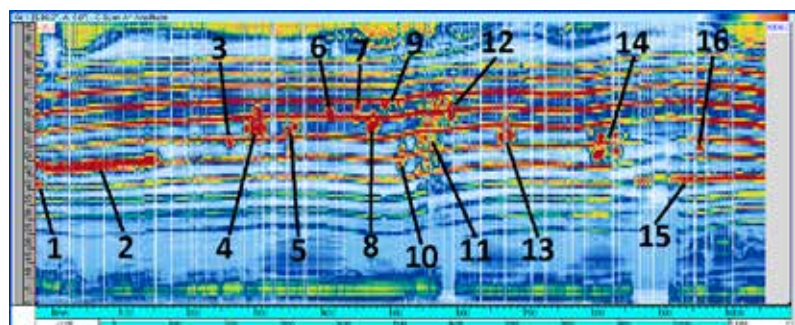
**PolyTest™** is a new field inspection system for volumetric non-destructive testing of electrofusion and butt fusion joints in polyethylene (PE) pipes. The equipment has been designed and optimised to provide:

- phased array ultrasonic probes, operating at the optimal frequencies
- a simple and flexible scanner to accommodate pipes with outside diameters from 90-900mm
- membrane water wedges to reduce the electronic steering with the probe elements while still covering the weld fusion zone

The system is supported with procedures to enable detection of all types of flaw that can occur in PE pipe welds including planar flaws, particulate contamination and cold welds. TWI has carried out extensive performance testing to determine the acceptance criteria that should be applied. We have also validated the system's inspection capabilities in joints containing known flaws.

### Benefits include:

- fully portable system allowing in-trench inspection
- validated and backed up by structural assessment data developed through long-term performance testing, providing increased confidence in the integrity of PE welded joints
- applicable for gas, water and nuclear applications
- complies with the requirements of all existing and upcoming standards



Phased array scan from a 315mm electrofusion joint showing multiple imperfections.