

DESTRUCTIVE TESTING

POLYETHYLENE BUTT-FUSION & ELECTRO-FUSION WELDING



TENSILE STRENGTH | PEEL DECOHESION | CRUSH DECOHESION



Our Laboratory complies with the requirements of NZS ISO/IEC 17025:2005, and is Accredited in the field of Mechanical Testing.





ACCREDITED DESTRUCTIVE TESTING

Testing the strength of welded polyethylene joints, the quality of the weld is characterised by the nature of the test failure.

Ductile Failure: desired result, weld yields slowly and is accompanied by material deformation.

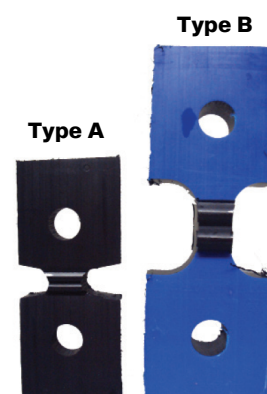
Brittle Failure: undesired result, weld yields with little or no material elongation.

Tensile Strength Test of a Polyethylene Butt Weld

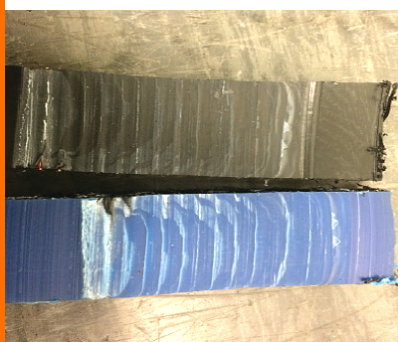
Type A: (black) Wall thickness <25mm

Type B: (blue) wall thickness > 25mm

- Determines the strength and failure mode of butt-fused pipe.
- Suitable for joints with an outside diameter > 90mm.
- Test pieces are cut from the pipe.
- Samples are subjected to a tensile strength at a constant speed.
- Force is applied to the elongation until complete failure.
- The surface of the failure is then analysed.



Result samples
Left: Brittle failure
Right: ductile failure

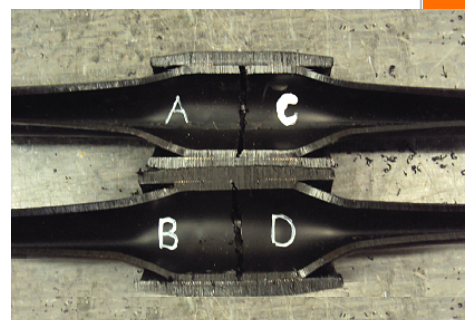


Peel Decohesion Test of Electrofusion Joints > 90mm

- Determines the decohesive resistance of electro-fusion joints.
- Suitable for joints with a diameter > 90mm.
- The test piece is subjected to a tensile stress at a constant speed until there is a complete separation.
- Place of the failure is recorded and the type of the failure identified.

Crush Decohesion Test of Electrofusion Joints 16mm - 225mm

- Determines the decohesive resistance of electro-fusion joints.
- Test pieces are extracted from the joint and subjected to a compression at a constant speed.
- The point of failure is recorded and the type of failure identified.





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