

## APPROVED MATERIALS LIST

### Polyethylene Pipe and Fitting Manufacturer Actions Memorandum

PE pipe and any approved striping shall only be manufactured from 100% virgin raw materials.

#### Quality Assurance records

The manufacturer shall provide quality assurance records, particularly Melt flow rate and Thermal stability testing results, to the Engineer with each batch of pipe and fittings.

The Melt flow rate (MFR) test shall be determined in accordance with ISO 1133. **A batch is as defined in clause A3.2 of AS/NZS 4130. The results can be for the resin from which the pipe batch was manufactured.**

*The MFR of the black or coloured compound shall not deviate by more than 30% from the value nominated by the compound manufacturer in accordance with cl 4.1.2 AS/NZS 4131.*

Thermal stability shall be confirmed by determining the oxidation induction time (OIT) of a test specimen taken from the inside surface of the PE pipe and tested in accordance with ISO 11357-6 using oxygen at a test temperature of 200 deg C.

*The OIT shall be equal to or greater than 20 minutes in accordance with cl 10.3 AS/NZS 4130.*

#### Pre-supply Compatibility testing

Prior to the delivery of pipes and fittings, the manufacturer or supplier shall have the following complying tests undertaken by an accredited laboratory with all test results being forwarded to the Engineer.

*The tests will apply to each pipe batch (and batch of fittings as applicable) and include two butt fusion welds, two electrofusion joint welds, two electrofusion saddle joint welds and two stub flange butt weld joints, with results being identified by pipe batch number. **Where the weld type is not required by the project, testing for that weld type is not required.***

- *Tensile tests shall be in accordance with ISO 13953*
- *Peel decohesion tests shall be in accordance with ISO 13954 for pipe diameters 90mm and larger.*
- *Crushing decohesion tests shall be in accordance with ISO 13955 for pipe diameters smaller than 90mm.*
- *Saddle decohesion test shall be in accordance with ISO 13956*

#### Compatibility Statement, welding parameters and witness mark measurements for electrofusion couplers

The following information shall be supplied by the manufacturer or supplier to the Engineer prior to delivery of pipe and fittings.

- The manufacturer shall state which fittings and batches of fittings have been tested as compatible with their PE pipe with reference to pipe batch numbers. This testing can apply to more than one project if the two projects are supplied from the same batch.
- Welding parameters for butt fusion and electrofusion couplers which have been confirmed by testing as applicable and compatible for the pipe and fittings shall be supplied, along with the welding plant model details.
- Witness mark measurements for the supplied electrofusion couplers shall be supplied by the manufacturer.