

PT/270/1007 – AS (October 2007)
Assessment of Asset International Ltd's
'Weholite' pipe up to 3000mm for drainage and
sewerage - schedule

independent certification of your products & services

1. Scope

To assess performance and jointing of Weholite pipe from 400mm up to and including 3000mm diameter. The pipe was developed by KWH and is produced by Asset International Ltd.

Weholite is an HDPE pipe for low pressure applications (drains and sewers). The pipes are jointed by a variety of methods including push fit joints ($\leq 900\text{mm}$), flexible couplings and welded joints. This assessment schedule covers pipes jointed by automatic and manual external welding ($\leq 900\text{mm}$), automatic and manual internal welding (900 - 3000mm).

2. Assessment schedule

2.1 Technical audit of production facilities, including review of type and quality control testing and test results.

2.2 Review of test data and witnessing testing where necessary.

2.3 Audit of written procedures for jointing of Weholite pipe, including on-site witnessing of procedures.

2.4 Review of design and installation procedures including on-site witnessing of installation.

2.5 Check on product performance.

3. Review of properties

The requirements of BS EN 13476 Parts 1⁽⁴⁾ and 2⁽⁵⁾ including the National Annex have been taken into account and the other specifications and documents listed in Section 6 have been consulted.

British standard BS EN 13476 Parts 1⁽⁴⁾ and 2⁽⁵⁾ is taken as the basis for the assessment with additional requirements taken from WIS 4-35-01⁽³⁾ in order to form the complete UK requirements for Weholite.

Dimensions and tolerances to Clause 7 of BS EN 13476-2⁽⁵⁾. Appearance to Clause 6 of BS EN 13476-2⁽⁵⁾. Marking to Clause 11 of BS EN 13476-2⁽⁵⁾.

Material properties:

	Specification	Clause
General	BS EN 13476-2 ⁽⁵⁾	4.4.1
Melt flow index	BS EN 13476-2 ⁽⁵⁾	4.4.2
Density	BS EN 13476-2 ⁽⁵⁾	4.4.2
Thermal stability	BS EN 13476-2 ⁽⁵⁾	4.4.2
Stress rupture	BS EN 13476-2 ⁽⁵⁾	4.4.2
Sealing rings	BS EN 13476-2 ⁽⁵⁾	4.5

Pipe properties:

	Specification	Clause
Ring flexibility	BS EN 13476-2 ⁽⁵⁾	Annex I
Creep ratio – long term	BS EN 13476-2 ⁽⁵⁾	9.1.1
Longitudinal bending	WIS 4-35-01 ⁽³⁾	6.11
Heat test	WIS 4-35-01 ⁽³⁾	6.12
Impact	BS EN 13476-2 ⁽⁵⁾	Annex G
Short term ring stiffness	BS EN 13476-2 ⁽⁵⁾	9.1.1
Tensile strength of seam	BS EN 13476-2 ⁽⁵⁾	9.1.2

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Joint properties:

	Specification	Clause
Welded joint – tensile test	BS EN 13476-2 ⁽⁵⁾	10

4. Review of procedures

In addition to the performance of pipes, the following items are checked.

Quality control, as it applies to:

- incoming materials;
- machine operation;
- control of production.

Design and installation procedures and available guidance to users.

Pipe jointing (welding) procedures including:

- pipe preparation;
- operation of machines;
- welding instructions;
- quality of welds.

5. Check on product performance

Two major customers are contacted to check the performance of existing installations and confirm that no problems related to the installation or subsequent operation have been experienced.

6. Reference documents

1. Civil Engineering Specification for the Water Industry. 4th edition.
2. Sewers for Adoption. 5th edition.
3. WIS 4-35-01: Water Industry Specification for thermoplastics structured wall pipes, joints and couplers with a smooth bore for gravity sewers for the size range 150-900 inclusive.

4. BS EN 13476-1 Plastics piping systems for non-pressure underground drainage and sewerage - Structured-wall piping systems of Unplasticised poly (vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE) - Part 1: General requirements and performance characteristics.
5. BS EN 13476-2 Plastics piping systems for non-pressure underground drainage and sewerage - Structured-wall piping systems of unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE) - Part 2: Specifications for pipes and fittings with smooth internal and external surface and the system, Type A.