WRc Evaluation & Testing Centre Ltd

WBS TEST & ACCEPTANCE CRITERIA PD.

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TEST CODE SHEET

1. <u>TYPE OF TEST(S)</u>

Tension - (Resistance to pull-out of assembled joints - multiple pull)

2. <u>BYELAW REQUIREMENT FOR FITTINGS</u>

Byelaw 52

Every water fitting shall be constructed of material, the nature, the strength and thickness of which...... will prevent, so far as is reasonable practicable, damage from - (a) any external load; (b)stress.....

3. BRITISH STANDARDS OR WATER SPECIFICATION, DEEMED TO SATISFY BYELAW REQUIREMENTS

(See Water Supply Byelaw Guide)

3.1 Fittings with 'kitemarks' which are deemed to satisfy the requirements of byelaws are listed in the directory.

4. <u>TEST PROCEDURE</u>

4.1 Tests applicable to the following fittings:-

COMPRESSION FITTINGS FOR USE WITH METRIC POLYETHYLENE TUBE - above and below ground

(A) <u>COMPRESSION FITTINGS FOR USE WITH METRIC POLYETHYLENE TUBE - ABOVE AND BELOW</u> <u>GROUND</u> (Derived from BS864:PTS, 11.7, Appendix B)

TEST METHOD

The test specimen shall consist of the fittings or fittings to be tested, assemble with one or more pieces of polyethylene pipe of the size and quality for which the fitting is designed. Blue polyethylene for below ground or black polyethylene for above ground. Each piece of pipe shall be at least 300mm in length. Assembly of the fittings shall be in accordance with the manufacturers assembly instructions.

Mount the test specimens securely to the tensile test apparatus in accordance with setting-up procedure IGN 1-50-72. Select from Table 'A' the appropriate test force for pipe size and fitting under test.

Apply the tensile force gradually over a period of 15 -30 seconds. Hold the specimen in constant tension for a period of 60 mins + 30 s, -0 Secs and at a temperature of $23 \pm 2^{\circ}$ C.

Subject the test piece to a further three force and relaxation cycles.

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Nominal pipe size (mm)	20	25	32	50	63
Test Force (KN)	1.2	1.6	2.6	6.2	9.8
Maximum Slip (mm)	2.0	2.5	3.0	3.5	4.0

Table "A" - Test forces and maximum slip for repeated pull-out tests.

After removal, examine the specimen for pull-out from the compression ring and/or fracture,/tearing of the pipe. If appropriate, the cap nut shall be removed to permit examination.

5. <u>ACCEPTANCE CRITERIA</u>

The maximum <u>permanent</u> axial movement of the pipe relative to the fitting body shall not exceed the appropriate value indicated in Table "A". If any movement of the pipe with relation to the fitting takes place during the test, it shall occur during the first pull.