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WBS TEST & ACCEPTANCE CRITERIA PD.

Issue No: 1
Date of issue: May 1995

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TEST CODE SHEET

1. TYPE OF TEST(S)

Tension - (Resistance to pull-out of assembled joints - single pull).

2. BYELAW REQUIREMENT FOR FITTINGS

Byelaw 52.

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

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

There are no British Standards or WIS standards applicable.

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

4. TEST PROCEDURE

4.1 Tests applicable to the following fittings:-

FITTINGS FOR USE WITH TUBE AND PIPE - above and below ground use.
- Compression, metal or plastics for use with galvanised steel pipe

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(A) COMPRESSION FITTINGS FOR USE WITH GALVANISED STEEL PIPE - ABOVE GROUND

TEST METHOD

The test specimen shall consist of the fitting or fittings to be tested, assembled with one or more pieces of galvanised steel pipe of the size and quality for which the fitting is designed. 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 specimen in constant tension for a period of 5 mins + 30 secs, - 0 secs and at a temperature of $20 \pm 3^{\circ}\text{C}$.

Table A Dimensions of steel tubes: light				medium			heavy			Test Force (KN)	
Nominal size (DN)	Designation of thread	Outside diameter max min		Thickness	Outside diameter max min		Thickness	Outside diameter max min			Thickness
		mm	mm	mm	mm	mm	mm	mm	mm	mm	
15	½	21.4	21.0	2.0	21.7	21.1	2.6	21.7	21.1	3.2	0.60
20	¾	26.9	26.4	2.3	27.2	26.6	2.6	27.2	26.6	3.2	1.26
25	1	33.8	33.2	2.6	34.2	33.4	3.2	34.2	33.4	4.0	1.97
32	1¼	42.5	41.9	2.6	42.9	42.1	3.2	42.9	42.1	4.0	3.23
40	1½	48.4	47.8	2.9	48.8	48.0	3.2	48.8	48.0	4.0	5.00
50	2	60.2	59.6	2.9	60.8	59.8	3.6	60.8	59.8	4.5	7.80
65	2½	76.0	75.2	3.2	76.6	75.4	3.6	76.6	75.4	4.5	12.40

Table "A" - Above Ground

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. ACCEPTANCE CRITERIA

The pipe shall not fracture within the fitting or separate from the fitting during the period of the test. Upon completion of the test and dismantling of the fittings, visual inspection of the pipe shall indicate no damage to the galvanic coating.

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(B) COMPRESSION FITTINGS FOR USE WITH GALVANISED STEEL PIPE - BELOW GROUND

TEST METHOD.

Set up the test specimen as for (A) above. Select from Table B 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 5 mins + 30 secs, - 0 secs and at a temperature of $20 \pm 3^{\circ}\text{C}$.

Table B Dimensions of steel tubes: light					medium			heavy			Test Force (KN)
Nominal size (DN)	Designation of thread	Outside diameter max min		Thickness	Outside diameter max min		Thickness	Outside diameter max min		Thickness	
15	1/2	mm	mm	mm	mm	mm	mm	mm	mm	mm	0.60
20	3/4	21.4	21.0	2.0	21.7	21.1	2.6	21.7	21.1	3.2	1.26
25	1	26.9	26.4	2.3	27.2	26.6	2.6	27.2	26.6	3.2	1.97
32	1 1/4	33.8	33.2	2.6	34.2	33.4	3.2	34.2	33.4	4.0	3.23
40	1 1/2	42.5	41.9	2.6	42.9	42.1	3.2	42.9	42.1	4.0	5.00
50	2	48.4	47.8	2.9	48.8	48.0	3.2	48.8	48.0	4.0	7.80
65	2 1/2	60.2	59.6	2.9	60.8	59.8	3.6	60.8	59.8	4.5	12.40
		76.0	75.2	3.2	76.6	75.4	3.6	76.6	75.4	4.5	

Table "B" - Below Ground

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. ACCEPTANCE CRITERIA

The pipe shall not fracture within the fitting or separate from the fitting during the period of the test. Upon completion of the test and dismantling of the fittings, visual inspection of the pipe shall indicate no damage to the galvanic coating.