

EXAMINATION REPORT

Determination of the resistance to internal
pressure at a constant temperature

Electro fusion and Butt welded systems

REPORT NUMBER

LC 10684

AUTHORISATION

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DEPARTMENT

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Determination of the resistance to internal pressure at a constant temperature

Electro fusion and Butt welded systems

Manufacturer: Thermaflex Isiolatie B.V.

Place of production: Waalwijk (NL)

Certificate number: K25544, K25545 and K25548

According to standard: BRL-K17401

1. Order

By order of Kiwa Nederland B.V., the samples mentioned below were tested by Lab C on the determination of the resistance to internal pressure at a constant temperature according to NEN-EN-ISO 1167-1.

2. Principle

From the components of the system, pipes and fittings, a hydrostatic pressure test is performed for a specified period of time to test the resistance to internal pressure of the jointing of the system.

3. General

The samples were received on 17-06-2014 and registered with number LC 10684. The test was started on 01-07-2014 and was carried out by Mr A.J. Rikers.

4. Sample description

Date of sampling : 03-06-2014
 Sampled by : Mr P.G.M. Engelberts
 Date of production : 09-05-2014 (pipes)
 Assembled by : manufacturer
 Type of material : 1 PB system for district heating
 Type of jointing : electro fusion and butt welding

Pipes

Material and diameter : PB4237, 40 x 3,7 mm
 Marking : ECSTBat 120-1783 Classe 2 (70C-10bars) et Classe 5 (80C-6bars) ATEC 14/12-1783 Flexalen PB 40x3.7 EN ISO 15876 Class 5 :8bar Kiwa BRL-K17401 Class 2 :10bar DVGW DW-8321CM0089 ...
 Remark : marking is not completely readable

Fittings

Number, material, type and diameter : 1 PB electro fusion straight coupler 40 mm
 1 PB electro fusion 90° tee coupler 40 x 40 x 40 mm
 2 PB butt welded 90° elbow couplers 40 mm
 1 PB electro fusion end cap 40 mm
 1 PB butt welded end cap 40 mm

Marking : GF PB 40 3/14 (straight coupler), batch no. 140300
 GF PB 40 4/13 (tee), batch no. 130400
 GF PB 40 3/13 (elbows), batch no. 1302
 GF PB 40 1/11 (electro fusion end cap)
 GF PB 40 1/12 (butt welded end cap)

Construction and shape : meet the requirements

5. Preparation of the sample

The test pieces were filled with softened water.

Subsequently the test pieces were conditioned according to NEN-EN-ISO 1167-1.

6. Apparatus

Tank or oven with an average temperature of $\pm 0.5^{\circ}\text{C}$ of the required value.

Pressure unit with an average pressure of $+2$ en -1% of the required value.

7. Preservation of samples

In case of failure the samples will be kept for 3 months.

8. Test conditions

Standard : NEN-EN-ISO 1167-1

Test temperature : 95°C (water in water)

Design pressure : not specified

Pressure station nr. : Tank 10, S513

Conditioning time : 3 hours

Time to achieve test pressure : 1 min.

Orientation o/t test pieces : horizontal

9. Examination results

| Properties | Dimensions | |
|---------------|------------|-------|
| Test pressure | bar | 11,6 |
| Proving time | h | >1000 |

10. Conclusion*

The test pieces meet the requirement for the investigated aspect in accordance with BRL-K17401.