

Date: Aug 24th 2012
Our References: EN

Test Report No. 2.5/20700/0864.0.1-2008e
(circumscription of Test Report no. 2.5/20700/0864.0.1-2008 from 31th October 2008)

General

Order by: **Lübbering Umwelttechnik GmbH**
Landstr. 2
58730 Fröndenberg

Order date: 2008-10-24
Material delivery: 2008-10-13

Material: Manhole cover made from steel according to DIN EN 124
manufacturer's designation: **WAD III E 1400x740 400kN VR2**
(applicant's designation)

Tests

Static load test according to DIN EN 124

Tests were carried out on 24th October 2008.
Results apply executively to the received material.

Results are reported with the accuracy given in the standard. For statistical use the measured accuracy is taken.

This test report contains 2 pages and 2 enclosures (A1 - A2). The test report may not be published in parts.

1. Preface

The manhole cover received from the company Lübbering Umwelttechnik GmbH has following characteristics:

Cover: welded steel construction, installed in concrete frame (inner width (LW) = 740 mm).

Construction and dimensions of the manhole cover are detailed given in enclosures A1 and A2.

2. Test method

Test load (according to DIN EN 123, clause 8.1) has been applied by means of a hydraulic cylinder (Enerpac 600 kN) with electric pump and constant load maintenance. Pressure reading was realised by means of an analogous manometer (Enerpac, type GGP 1000, 0 – 700 bar) with a resolution of 1 bar. The test control unit (cylinder, pump, display) had been calibrated with a class 1 testing machine. Load transmission was carried out with a steel plate (d = 250 mm) via an interlayer of needle punched nonwoven.

The deformation was measured by means of a displacement transducer (Mitutoyo, accuracy 0.01 mm).

The concrete frame was applied to the test frame with a layer of needle punched nonwoven (thickness approx. 10 mm).

3. Procedure


The sample was tested for keeping up against a proof load of 400 kN (class D 400). For this purpose a test load in the amount of 2/3 of the proof load was applied five times for 30 s each. After unloading the remained deformation in the geometric centre of the sample was measured.

4. Results

The sag after five times loading with the test load (2/3 of 400 kN) was 0.7 mm.

Therefore, the manhole cover fulfils the requirement for D 400-systems ($\text{sag} < \text{LW}/300 = 740/300 = 2.5 \text{ mm}$).


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