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Test Report No. 1.1 / 20700 / 1028.0.1-2014e

General

Issued : 15 October 2014

Order by : **LÜBBERING Umwelttechnik GmbH**
Landstraße 2
58730 Fröndenberg, GERMANY

Material : Steel man hole cover, incorporated in the concrete frame, on grade
WAD III MG 400 920 x 920
(declaration by customer)

Order date : 23 September 2014

Samples delivered : 23 September 2014

Tests	Standard	Issue	Drawing as Enclosure No.
1. Static load test	DIN EN 124	08.1994	A1 - A3

The results apply exclusively to the specimens submitted.
The date of testing is reported on the enclosed enclosure/-es.
Results are reported to the accuracy given in the standards. In statistical evaluation, the measured accuracy is taken.

This test report contains 2 pages and 3 enclosure/-es (enclosure/-es A1 - A3).
It may not be published in parts.

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Results

Date / Ref. : 15 October 2014 / sh

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Material : Steel man hole cover, incorporated in the concrete frame, on grade
WAD III MG 400 920 x 920
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1. General information

The steel manhole cover provided by LÜBBERING Umwelttechnik GmbH has the following features:

Steel man hole cover, incorporated in the concrete frame (clear width LW = 920 mm).

The structure of the manhole cover and its dimensions can be seen from enclosures A1-A3.

2. Test method

The test force (in accordance with DIN EN 124, section 8.1) was applied using a hydraulic cylinder (Enerpac 600 kN) driven by an electric pump and equipped with constant load conditioning. The force is read off a digital measurement amplifier and a load cell (made by the company HBM, Typ MGC MC55 / U5 500kN). The test apparatus (cylinder, pump and gauge) has been calibrated using a class 1 test machine. The load was supplied by a steel plate (d = 250 mm) buffered by an intermediate layer of needlepunched nonwoven. Deformation was measured using a displacement sensor (Mitutoyo) with a dimensional accuracy of 0.01 mm. The concrete frame was loaded onto the test frame with the needlepunched nonwoven cover (approx. 10 mm thick).

3. Manner of execution

The specimen was tested in order to check if it could withstand a test load of 400 kN ("D 400" class).
To do so, the specimen was subjected to a load of 2/3 of the test load 5 times; after the load was removed, the permanent set (i.e. deformation) was measured in the geometrical centre of the specimen.

4. Results

With 0.32 mm bending after 2/3 of the 400 kN test load were applied 5 times, the steel cover comes up to the demands placed on D 400 systems (length of bending path < clear width / 300 = 920/300 = 3.1 mm).

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