

# Test Report

REPORT NO:  
957187



**DANISH  
TECHNOLOGICAL  
INSTITUTE**

Gregersensvej  
DK-2630 Taastrup  
+45 72 20 20 00  
Info@teknologisk.dk  
www.teknologisk.dk

Page 1 of 4  
Initials: SCL/UHI  
Order no.: 957187  
Appendices: 2

**Customer:** Contact: Keld Rindom  
Company: GREEN DRAIN EUROPE  
Address: Birk Centervej 40  
Town: DK-7400 Herning

**Material:** The product tested is a waterless odour trap for floor drains, produced by "Green Drain". The floor drain trap seal protection devices acts as a kind of rubber valve by being effectively sealed when there is no water flow. The submitted products are type GD2, GD3, GD35, GD4 and GD5. The products itself was labeled with:

- GD2: 50-58 mm from GREEN DRAIN™
- GD3: 75-85 mm from GREEN DRAIN™
- GD35: 89-100 mm from GREEN DRAIN™
- GD4: 102-110 mm from GREEN DRAIN™
- GD5: 120-135 mm from GREEN DRAIN™

**Purpose and scope:** The test was completed with the aim to get an European Technical Assessment (ETA) of the waterless odour trap for floor drains. The products was send for testing in accordance with the Danish VA PG 2.4330-01, see also <http://www.etadanmark.dk/da/va/hvordan-godkendes-produktet>

Test implementation, results and conclusion in appendix 1. Pictures from the test in appendix 2

**Place:** Date 09.12.2020, Danish Technological Institute, Taastrup, Pipe Centre

**Signatur:** Ulrik Hindsberger  
Centre Manager



## Appendix 1: Test implementation, results and conclusion

### Test implementation

The test was carried out at the Pipe Centre, Danish Technological Institute, Taastrup, Denmark in September 2016 and May 2018.

The design and the tests are based on DS/EN 1253-1, but some adjustments had to be made, since this product is a floor drain trap seal protection device and not a water trap:

1. Testing of resistance to vacuum and pressure. The test was conducted by principle from DS/EN 1253-1, but only with air and without water
2. Testing of self-cleaning ability by DS/EN 1253-1, Section 5.4.2.
3. Testing the water flow through the floor drain trap seal protection devices to horizontal positioning is performed by DS/EN 1253-1, Section 4.8.1. Testing was carried out by performing temperature test according to DS/EN 1253-1 section 5.5.1, for 100 hours (only GD2-model) and then test with a water flow according to EN 1253-1, Section 5.4.2.
4. The extraction of the floor drain trap seal protection devices. The for types was mounted in two different types of gullies in order to assess the extraction power of the products.

### Results

The results from the test. There are some pictures from the test in appendix 1.

#### Testing of vacuum and pressure

The result was, that the floor drain trap seal protection devices withstand a pressure > 400 pa, (40 mm water column), see results in the table below:

Type	Pressure (Pa)
GD2, 50-58 mm	661
GD3, 75-85 mm	660
GD35, 89-100 mm	502
GD4, 102-120 mm	>400
GD5, 120-135 mm	610

In turn, the floor drain trap seal protection device coped with less than 20 Pa negative pressure (suction) from the drain installation. Additionally, the floor drain trap seal protection device opens completely in conjunction with major deposits etc. to pass through.

#### Testing of self-cleaning ability

Self-cleaning ability of the trial after the temperature cycle test was satisfactory, since no bullets were retained.

#### Testing of the water flow

After the temperature cycling for 100 hours for the GD2-model was finished the flow of water through the floor drain trap seal protection device was measured, see table below:



Type	Flow measured (l/s)	Flow (l/s) in EN 1253-1	Result
GD2, 50-58 mm	0.85	0.8	OK
GD3, 75-85 mm	1.5	0.8	OK
GD35, 89-100 mm	2.3	0.8-1.4	OK
GD4, 102-110 mm	1.4	0.8-1.4	OK
GD5, 120-135 mm	4.0	2.8-4.0	OK

All the results are OK according to EN 1253-1.

The extraction of the floor drain trap

All types were tested in to different kind of gullies for buildings - one of PP and one of stainless steel. The extraction power was more than 5 kN for all four types in both the stainless steel and the PP gullies.

**Conclusion**

The conclusion of the tests of the product Green Drain™, type GD2, GD3, GD35, GD4 and GD5I are:

- The floor drain trap seal protection device had no problems coping with pressure (pressure from the drain installation and out through floor drain trap seal protection devices) from drain installation. In turn, the valve opened by the small negative pressure (suction from the drain installation through the floor drain trap seal protection devices).
- In the Danish Standard DS 432:4<sup>th</sup> edition, section 4.8 states that traps should be able to handle both 400 pa pressure or vacuum. This floor drain trap seal protection devices work without water and if it is to be used in drainage systems, the user must be aware that it only works against pressure and that the valve can be open briefly, if larger deposits must pass through the valve.
- The floor drain trap seal protection device meets the requirements for water flow in horizontal position
- The floor drain trap seal protection device meets the requirements for the self-cleaning ability
- In terms of ensuring the extraction, it is recommended that the product can be purchased with a fastening device, for example, a line of suitable material such as the floor drain trap seal protection devices can be placed again if it moves up.

MODEL NO.	SIZE		CAPACITY
	Ø (mm)	HEIGHT (mm)	L/min.
GD2.....	50-58.....	51.....	45,4
GD3.....	75-85.....	51.....	128,7
GD35.....	89-100.....	51.....	193,0
GD4.....	102-110.....	51.....	276,3
GD5.....	120-135.....	51.....	276,3

Ø = external pipe diameter



**Appendix 2: Pictures from the test**

