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Test report

Testing of Roth GV manifold cabinets for floor heating distribution

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CLIENT(S)
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CLIENT'S REF.
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102004276-36

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TEST OBJECT
Roth GV manifold cabinet – 550 mm
Roth GV manifold cabinet – 800 mm
Roth GV manifold cabinet – 1150 mm

TEST OBJECT RECEIVED
2015-04-29

TEST PROGRAM
NT VVS 129

TEST LOCATION
Oslo

DATE OF TEST
May 2015

ABSTRACT

SINTEF Building and Infrastructure has on behalf of Roth Nordic A/S carried out testing of Roth GV manifold cabinets for floor heating distribution, dimensions 550 mm, 800 mm and 1150 mm.

The tests have been carried out in accordance with NT VVS 129 "*Pipe in tube systems*". See Table 4.1 for conducted tests.

Result: Passed

The test results relate only to the items tested

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CLASSIFICATION
Restricted

1. INTRODUCTION

SINTEF Building and Infrastructure has on behalf of Roth Nordic A/S carried out testing of Roth GV manifold cabinets for floor heating distribution, dimensions 550 mm, 800 mm and 1150 mm.

The tests in accordance with NT VVS 129 were conducted Bjørn-Roar Krog from SINTEF Building and Infrastructure.

2. TEST METHOD

The tests have been carried out in accordance with NT VVS 129 "*Pipe in tube systems*". See Table 4.1 for conducted tests.

3. TEST OBJECT

The test objects from Roth Nordic A/S are components belonging to Roth GV manifold cabinets for floor heating distribution; see Table 3.1 and Fig. 3.1-3.6.

The protection tube is a part of SINTEF Technical Approval no. 2556 for Roth pipe in tube systems.

The controlled components, see Table 3.1, were delivered by post on 2015.04.29; they were in good condition on arrival.

Table 3.1: Controlled components

Component	VVS-nr. (DK)	NRF-nr. (NO)	Dimension	Quantity	Figure
Roth GV manifold cabinet (incl. front door)	046219.286	837 02 55	550 mm	1	3.1
Roth GV manifold cabinet (incl. front door)	046219.288	837 02 56	800 mm	1	3.2
Roth GV manifold cabinet (incl. front door)	046219.292	837 02 57	1150 mm	1	3.3
Roth bushing	-	-	10 – 34 mm	10	3.4
Roth fixation nipple (part of bushing)	046297.728	835 74 97	20 – 28 mm	10	3.4
Roth fixation nipple (part of bushing)	046297.734	835 74 98	25 – 34 mm	10	3.4
Roth protection tube	-	-	16 / 21 mm	5 m	3.5
Roth protection tube	-	-	20 / 25 mm	5 m	3.5
Roth protection tube	-	-	23 / 28 mm	5 m	3.5
Roth protection tube	-	-	28 / 34 mm	5 m	3.5
Roth QuickBox (drainage components)	046297.840	511 86 16	25 mm	3	3.6

Fig. 3.1: Roth GV manifold cabinet – 550 mm

Fig. 3.2: Roth GV manifold cabinet – 800 mm

Fig. 3.3: Roth GV manifold cabinet – 1150 mm

Fig. 3.4: Roth bushings and fixation nipples

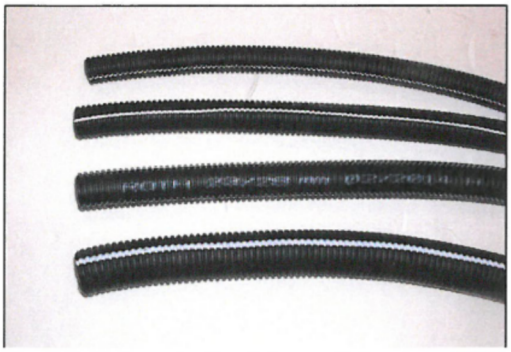

Fig. 3.5: Roth protection tubes – dimensions 16/21 mm, 20/25 mm, 23/28 mm and 28/34 mm

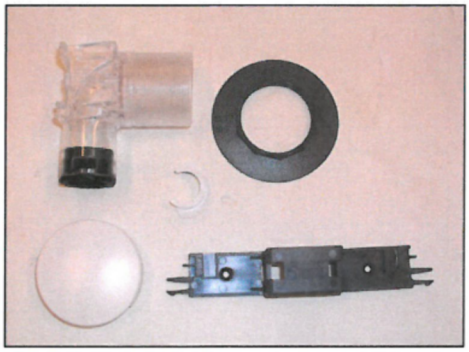

Fig. 3.6: Roth QuickBox – drainage kit / components

4. TESTS, METHODS, REQUIREMENTS AND RESULTS

Table 4.1: Summary of results - NT VVS 129

Chapter	NT VVS 129	Characteristics	Number of tested items	Passed	
				Yes	No
4.1	6.4.9	Watertightness by internal splashing	3	x	
4.2	6.4.10	Watertightness of bushings	10	x	
4.3	6.4.11	Water capacity of the drain	3	x	
4.4	6.4.12	Resistance to pull out of the protection tube	3	x	

4.1 Watertightness by internal splashing (NT VVS 129, Clause 6.4.9)

Method: The test shall be made at room temperature. A drainage tube shall be drawn through the drainage bushings according to the manufacturer's installation instruction. The test is made with the door of the manifold cabinet closed and a splash protection if required. A copper pipe with sufficient small holes shall be used as water supply, so that the whole inner surface of the manifold cabinet comes in contact with water. The water flow shall be 0,20 l/s.

Requirement: No visible leakages shall occur during a period of 5 minutes.

Result: **Passed**

4.2 Watertightness of bushings (NT VVS 129, Clause 6.4.10)

Method: The test shall be made at room temperature, and with at least four bushings for water connection, and the drain bushing mounted in the bottom of the manifold cabinet. Protection tubes and drain tube shall be drawn through the bushings according to the manufacturer's installation instructions. The bottom of the manifold cabinet is filled up with water to 10 mm below the level that causes overflow. An alternation of alignment is made on the protection tube on the underside of the manifold cabinet.

Requirement: No visible leakages shall occur during a period of 5 minutes.

Result: **Passed**

4.3 Water capacity of the drain (NT VVS 129, Clause 6.4.11)

Method: The test shall be made at room temperature. The drainage tube shall be drawn through, or fixed to, the bushing according to the manufacturer's installation instruction. Water is supplied and the water flow is increased, until the bottom of the manifold cabinet is filled up with water, and the water level is steady, 10 mm below level that causes overflow.

Requirement: The drainage shall have a capacity of $\geq$ 0,25 l/s.

Result: **Passed**

Comment: The drainage has a capacity of $\leq$ 0,35 l/s.

4.4 Resistance to pull out of the protection tube (NT VVS 129, Clause 6.4.12)

Method: The test shall be made at room temperature and without the inner pipe. The protection tube, with a length of approximately 300 mm, is mounted to the manifold cabinet, according to the manufacturer's installation instruction. A force or load of 100 N is applied in the longitudinal direction of the protection tube.

Requirement: The protection tube shall not slip or loosen from the manifold cabinet during a period of 5 minutes.

Result: **Passed**

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