

# Fire test of penetration seals in a concrete floor according to NS-EN 1366-3:2009.



VERSION		DATE
1		2019-10-08
AUTHOR		
Per Arne Hansen		
CLIENT		CLIENT'S REF.
Nordisk Wavin A/S Wavinvej 1 8450 Hammel Denmark		Lars Baungaard
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150020-08		37
TEST OBJECT		TEST OBJECT RECEIVED
Penetration seals		2019-06-18
TEST PROGRAMME	TEST LOCATION	DATE OF TEST
NS-EN 1366-3:2009	RISE Fire Research AS Norway	2019-09-05

## SUMMARY:

Nine penetration seals were tested in a floor made of aerated concrete elements with thickness 200 mm. The test lasted for 122 minutes.

Test results are presented in Paragraph 2 of the test report.

A detailed description of the test specimens is given in Paragraph 4.

PREPARED BY		SIGNATURE
Per Arne Hansen, Senior Adviser		
APPROVED BY		SIGNATURE
Robert Olofsson, Senior Engineer		
REPORT NO.		CLASSIFICATION
150020-08		Restricted

## 2 Test results

The test results are presented as:

- Visual observations during and after the test.
- Temperature measurements on the test specimens.
- Photos taken before, during and after the test.

### 2.1 Summary of test results

**Table 1** Results from fire testing. Time in complete minutes without criteria failure. Total test time 122 minutes.

Test specimen (Penetration seal no.)	Cotton wool	Integrity (E)		Insulation (I) $\Delta T \leq 180 \text{ K}$
		Sustained flaming	Gap gauge	
1 Ø160 x 5.6 AS+ pipe. Glava GPG filler, Glava Fire Wrap, Glava Acryl sealant.	14	17 <sup>1)</sup>	17 <sup>1)</sup>	10
2 Ø110 x 5.3 AS+ pipe. Glava GPG filler, Glava Fire Wrap, Glava Acryl sealant.	122	122	122	122
3 Ø110 x 5.3 AS+ pipe. Glava GPG filler, Pyroplex Fire Wrap, Pyroplex Acryl sealant.	122 <sup>2)</sup>	122 <sup>2)</sup>	122 <sup>2)</sup>	122 <sup>3)</sup>
4 Ø110 x 5.3 AS+ pipe. Glava GPG filler, Pyroplex Fire Collar, Pyroplex Acryl sealant.	122	122	122	122
5 Ø110 x 5.3 AS+ pipe with toilet. Glava GPG filler, Glava Acryl sealant.	60 <sup>4)</sup>	60 <sup>4)</sup>	59	59
6 Ø75 x 3.5 AS+ pipe with Purus drain. Glava GPG filler, Glava Acryl sealant.	122	122	122	122
7 Ø75 x 3.5 AS+ pipe with Purus drain. Glava GPG filler, Glava Acryl sealant.	122	122	122	122
8 Ø50 x 3.0 AS+ pipe with water trap. Glava GPG filler, Glava Acryl sealant.	122	122	122	122
9 Ø110 x 5.3 AS+ pipe. Glava GPG filler, Pyroplex Fire Wrap, Pyroplex Acryl sealant.	26 <sup>1)</sup>	26 <sup>1)</sup>	26 <sup>1)</sup>	13

<sup>1)</sup>: Pipe on unexposed side was removed and opening closed with insulation blanket.

<sup>2)</sup>: Observations after testing showed that the intumescent material had closed the opening.

<sup>3)</sup>: Roving thermocouple was used to measure the temperature on the pipe.

<sup>4)</sup>: No observations were made after 60 minutes because of the criteria failure at 59 minutes.

In connection with pipe end configuration (capped (C) and uncapped (U)), see description in paragraph 4.1, page 19.