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Determining the air thickness of the radon seal system regarding pipes that are going to pass through concrete structures.

(Two appendences)

Test samples

(For detailed sample description please see appendence no.3)

The test samples consisted of two concrete pads with pipes casted in the middle of each pad. The pipes were sealed with a rubber radon seal, Flexseal Puddle Flange, which ends were both air- and pressure sealed.

The concrete pads had the following measurements: 355 x 455 mm with a thickness of 100mm.

Diameter of pipe sample no.1: $D_1 = 100\text{mm}$.

Diameter of pipe sample no.2: $D_2 = 54\text{mm}$. Two pipes with this diameter were used in test no.2.

Test description

The reason of this test was to determine if the radon sealing system, Flexseal Puddle Flange, offered a thigh seal around pipes in concrete structures when being exposed to outside pressure.

Execution

(pictures are enclosed in appendence no.2)

The concrete structure was connected to an air pressure controlled chamber and was subjected with both excess and reduced pressure according to the following pressure schedule: 10, 20, 50, 100Pa.

Result

(more detailed information is enclosed in appendence no.1)

The leakage was less than 12 l/h when subjected to 100 Pa excess- respective reduced pressure, which is less that the lower limit of $0.012\text{m}^3/\text{h}$ on our measuring equipment.

Circumstances during the test

The test result only refers to the items that have been tested.

Date of arrival SP ETi:	2014-09-02
Date of test:	2014-09-16
Condition of arrival:	without ant visible damages
Equipment used during the test:	Test rig 202435 and measuring equipment 200750 and 202218
Estimated sources of error:	difference in air pressure ± 2 Pa, airflow $\pm 5\%$
Surrounding climate:	Air temperature 21°C, RH 41% and air pressure 980hPa.

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Appendices

Appendence 1: pictures and drawings of test samples during test.

Appendence 2: Product description of sealing system Flexseal Puddle Flanges.

Appendence 1

Picture 1: sealing with seal paste before connection of concrete structure with vacuum chamber.

Picture 2: Showing sample no.2 ($D_2=54\text{mm}$, 2 pipes) connected as a lid on top of the vacuum chamber.

Picture 3: Sample no.2 ($D_2=54\text{mm}$, 2 pipes) completely air sealed against vacuum chamber.

Picture 4: Drawings of sample no.1 ($D_1 \pm 100\text{mm}$).

Bilaga 1

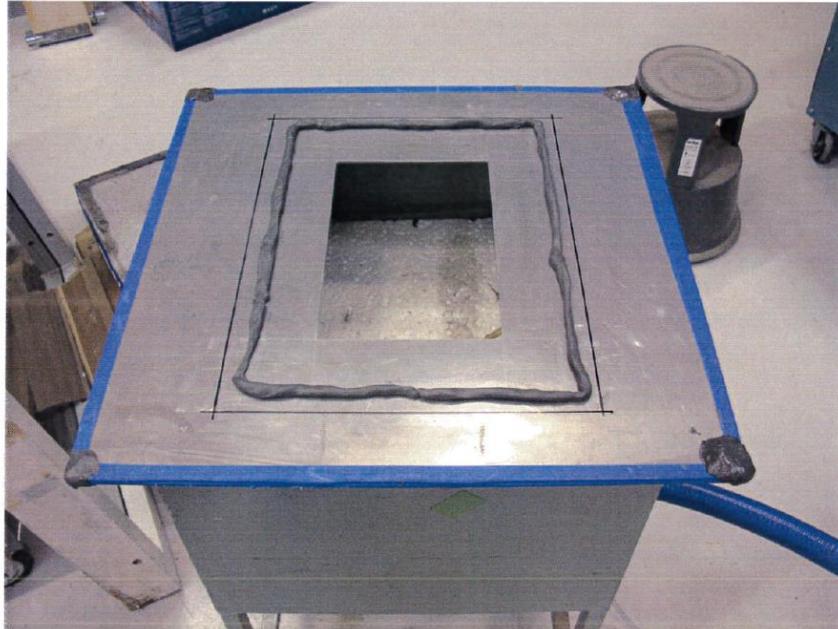


Bild 1: Tätning med knådpasta före anbringning mot lufttät låda.



Bild 2: Här provföremål nr.2 ($D_1=54$ mm, 2 st rör) anbringad som ett lock mot lufttät låda.

Bilaga 1



Bild 3: Provföremål nr.2 ($D_1=54$ mm, 2 st rör) helt lufttätad mot provlåda.

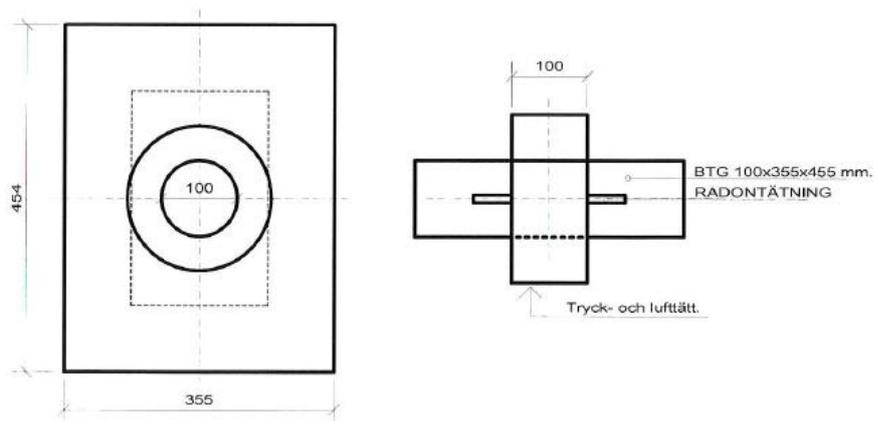


Bild 4: Plan och sektionsskiss av provföremål nr.1 ($D_1=100$ mm).