

Accelerated degassing test of SPS PRIMARY

Measurement of degassing from PCB-containing joint with and without SPS seal, Accelerated – RUC

February 2011

Summarized by Tim Warner, TWO Teknik ApS May 2012 []

Explanation: In continuation of initial tests of the diffusion properties at SPS PRIMÆR carried out by John Mortensen Associate Professor at INSM, Roskilde University Center

July/August 2010*, TWO Teknik ApS has requested an accelerated test of the diffusion properties of SPS PRIMÆR from Associate Professor John Mortensen, in order to determine the diffusion properties in the longer term. The test shows the effect of the seal over time, with min. factor 25, i.e. that 1 week in the test course corresponds to 25 weeks in real time. In this experiment, we have chosen to deal with the smallest and safest temporal factor.

The purpose of the test is solely to give a picture of the effect of the seal in the long term, and does not take into account conditions such as movements/sets in buildings.

A brief introduction and the summarized results of the measurements, carried out by Associate Professor John Mortensen, are shown in the diagram on page 3. The figures are inserted in a graph showing the development before and after sealing, on page 5.

We are available for questions about the test or our products in general.



Tim Warner, TWO Teknik ApS

* See Report at www.twoteknik.dk/pcb-i-bygninger

Roskilde, 25 February 2011 This is a summary of the results for measurement with and without TWO SPS PRIMARY (hereafter referred to as SPS) and at different times, carried out for TWO Teknik ApS. The experiment was carried out by suspending a joint in a pipe which is thermostated to 60oC. Here, degassing is accelerated with min. a factor approx. 25.

That is That when we measure after one week at 60 oC it corresponds to a result we would achieve by measuring for 25 weeks at room temperature.

Results in ng/m3/cm2 joint

hold times	PCB Congener	Time: 0 weeks	Time: 0 weeks	Time: 25 weeks	Time: 50 weeks	Time: 85 weeks	Time: 125 weeks	Time: 150 weeks,	Time: 225 weeks	Time: 400 weeks	Time: 525 weeks
		Without SPS	Med SPS	Med SPS	Med SPS	Med SPS	Med SPS	Med SPS	Med SPS	Med SPS	Med SPS
8	PCB28	1.945	0.116	0.04	0,105	0,077	0.078	0.070	0.103	-	0.065
8.4	PCB52	38.132	0.584	4	1,215	1,127	0.726	1.606	1.386	0.801	0.487
8.6		7.430	0.616	0.358	0,34	0,549	0.188	0.391	0.271	3.857	1.056
9.34		188.520	3.182	0.542	8,32	7,52	5.229	11.622	9.174	4.880	1.211
9.72	PCB101	111.630	2.901	2.102	8,501	6,904	5.326	11.618	9.786	3.591	2.485
10.34		32.782	1.021	2.606	2,81	2,81	1.829	3.757	3.108	1.473	0.778
10.86	PCB118	10.826	0.472	0.908	1,128	1,105	0.740	1.488	1.155	0.762	0.383
11.1.	PCB138	104.625	2.919	0.375	6,432	6,474	3.858	8.458	6.97	3.041	1.910
11.6	PCB153	65.841	1.768	2.198	4,427	4,336	2.858	5.641	4.904	2.318	1.282
12.7	PCB180	8.773	0.185	1.585	0.187	0,189	0.147	0.262	0.202	0.182	0.208

Data are not corrected for blank values. For the last measurement, there are no PCBs where there are no numbers.

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Diagram of the summarized measurement results for the outgassing from a PCB-containing joint or untreated and treated with TWO SPS measured over time, 10 years accelerated.

Results in $\text{ng}/\text{m}^3/\text{cm}^2 \text{ joint}$

