Excerpt from the test report, BBHP-005/2013/281k dated 22.08.2013

Catalytic effectiveness of the HT coating on ceramic tiles

1. Approach to the experiment

2 ceramic tiles were placed in each of 2 emission test chambers. A continuous flow of humidified neutral air enriched with the testing substance (NO) was passed through the test chambers. Two "Eversun" fluorescent lamps, whose emission spectrum included an increased proportion of UV light, were mounted on inert supports within the test chambers. An emission test chamber with fluorescent tubes but without ceramic tiles served as a reference.

2. Results

In the absence of tiles, the effect of UV light on the test gas atmosphere averaged over the testing period reduced the NO concentration by 12.3 ppb. The combination of HT coating and UV light showed a reduction in the NO concentration amounting to 28.5 ppb. The use of non-coated tiles led to a reduction in the ppb concentration under UV light in the test chamber amounting to 24.4 ppb. The development of NO concentrations over time is shown in Fig.1. Fig. 2 shows the average concentrations calculated over the testing period and the respective scatter widths.

Translator's notes:
1. To the left of the graph, y-axis, "c (NO) [ppb]"
2. In the top left hand corner of the graph, "t = o d is equivalent to the start of the addition of NO test gas".
3. Inside the graph, on the right hand side, "Blank value, lighting off
"Blank value, lighting on"
4. Below the graph, x-axis, "time [d]"
5. To the right of the graph, y-axis, -"° with UV, without ceramic tiles
- □ with UV, with HT
- ▲with UV, without HT"

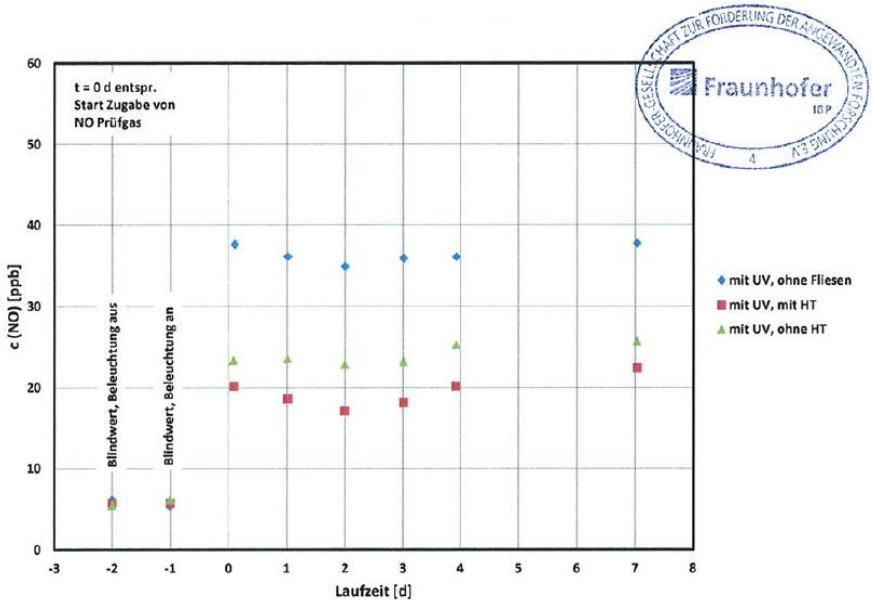

Fig.1:
Time dependent course of NO concentrations in the test chambers.

Translator's notes:
1. To the left of the graph, y-axis, "NO concentration [ppb]"
2. Below the graph, Column 1, "without ceramic tiles"
3. "**Coating and light source [-]**"

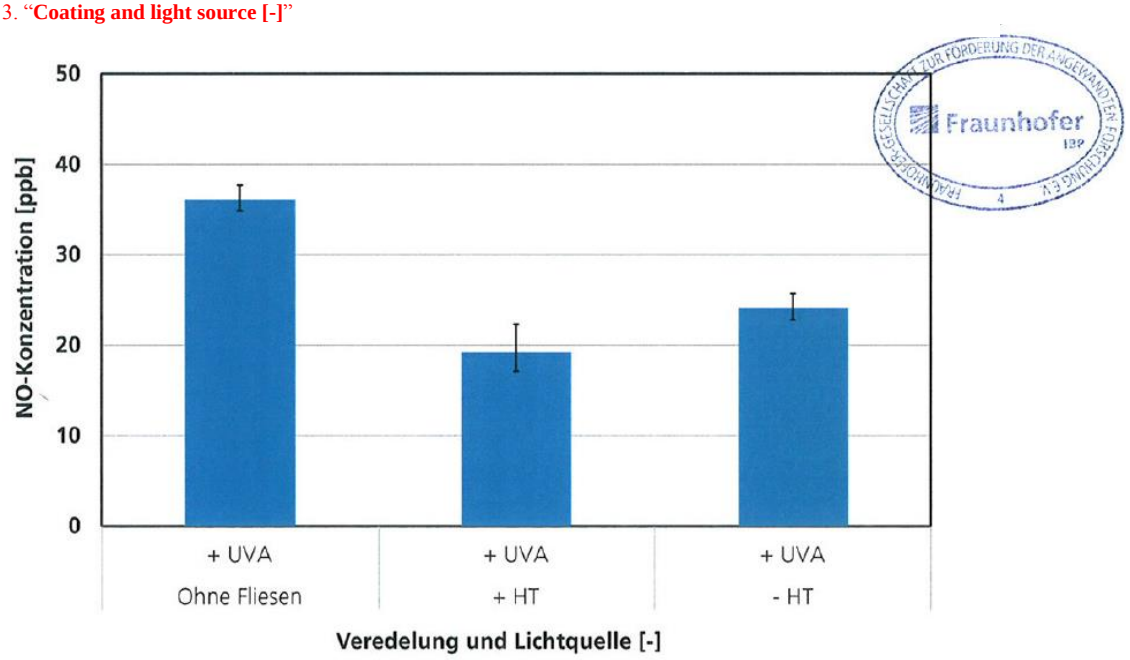

Fig. 2:
Average values and NO concentration scatter in the test chambers.

The NO(x) concentrations in the test chambers tended to follow the course of NO concentration. Hereby, the effect is less pronounced however (Fig. 3).The formation of NO_2, a product of the oxidation of NO, can be assumed to be the cause of the less pronounced reduction in concentration under the influence of UV light.

Translator's note:
All texts as in Fig.1

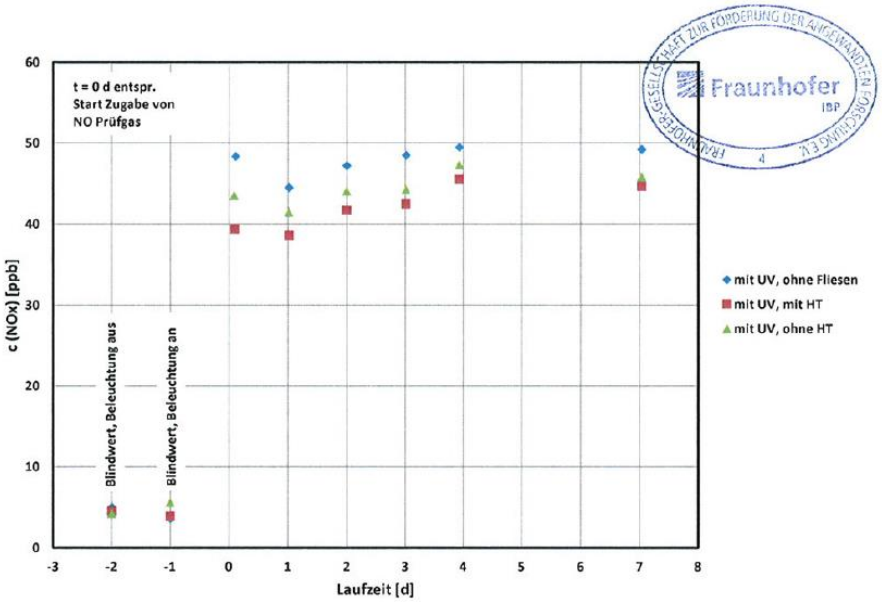

Fig. 3:
Time dependent course of the NO(x) concentrations in the test chambers.

3. Summary

The results can be summarised as follows:

- The combination of HT coating and UV light showed a significant reduction in the NO concentration.

- The reduction in NO(x) concentration was significantly less pronounced than the reduction in the NO concentration. The reason for this can be assumed to be the fact that part of the nitric oxide (NO) is oxidised to form nitrogen dioxide NO_2 and that this is also recorded in the NO(x) measurement.

- The effect of UVA light on the test gas without the presence of ceramic tiles already resulted in a reduction in the NO concentration.

- Within the measuring accuracy, the effect of UV light and HT coating remained almost constant over the test period.