

ABSTRACT

On 24 November 2005 TÜV Produkt und Umwelt GmbH carried out room air measurements on behalf of Euromate BV to determine the efficiency of the Smoke 'n Go smoker cabin with relation to the reduction of pollutants from second hand cigarette smoke in room air.

A filter system unit is permanently installed in the smoker cabin. In order to determine the efficiency of the Smoke 'n Go, air measurements were taken simultaneously in the smoker cabin as well as at the cabin air outlet (rear) during greatest load as simulated by the generation of cigarette smoke by 6 persons smoking 6 cigarettes each in approx. 6 minutes. Before the measurements a status measurement was taken to determine the air quality within the cabin. The tests were repeated a second time with different filter cartridges (another activated charcoal), in order to determine whether the alternative filter cartridges is also suitable.

In previous were laboratory tests investigations were carried out with dust particle sizes from 0.1µm.

A comparison of the findings of some of the pollutants (concentration developed during smoking compared to the pollutants still present at the air outlet) are as follows:

- The number of particle sizes 0.3µm and 0.5µm were considerably reduced. Reduction of the particles of up to 99.9%. In addition an efficiency of 99.99% was reached in laboratory tests with 0.1µm, 0.3µm, 0.5µm, 2.5µm (PM2.5) as well as 10.0µm (PM10) particles.
- The room air concentration of nicotine was reduced almost 99.99%.
- The room air concentration of formaldehyde was reduced about 90% (standard filter cartridge) or 79% (alternative filter cartridge) respectively.
- The total of all collected VOC's was reduced about 91% with the standard filter cartridge or 94% with the alternative filter cartridge respectively.
- The initial concentration of total carbon (TOC) could be reduced 97% by both filter packages of the air cleaner.
- No odours were noticed in the area around the cabin during the time that the cigarette smoke measurements were being carried out.

Under the described conditions the use of the Smoke 'n Go led to a distinct lowering of the pollutant concentration. The air cleaner is therefore suitably for the minimization of the pollution impact caused by cigarettes and can be recommended for this use.

The Smoke 'n Go has fulfilled the criteria for receiving the TÜV Rheinland Group's official seal „Wirksamkeit geprüft“ (effectiveness tested) for, among other things, the reduction of certain pollutants in indoor air by at least 30%.