

Press Release

Aug 27, 2008 | ID: 16755

Safe Volvo cabin environment for allergy sufferers

The interior environment in a Volvo vehicle should also be safe for people with hypersensitivities toward allergens. With an increasing number of customers beginning to make demands on the quality of the air in a vehicle's passenger compartment, Volvo Car Corporation is taking a lead role developing interiors that provide an often overlooked component to safety and health.

In the industrialised world, up to 45 percent of the population suffer from some form of allergy and more than ten percent have been diagnosed with asthma. Researchers have noticed dramatic increase in people with allergies and asthma since the 1950s and partially attribute it to air pollutants such as nitrogen oxides, ground-level ozone, particulates and pollen.

In the mid-1990s, Volvo Cars decided to establish specifications and institute testing for the purpose of creating an environment inside its vehicles that are safe for people with hypersensitivities. When the first generation Volvo S80 was introduced in 1998, it was the first model in which the company's dedication was clearly noticeable.

Odour-free

The objective is for the air inside the cabin to be cleaner than the air outside of it. This includes outside air drawn into the cabin as well as the emissions from the interior materials. What is often referred to as the "new car smell" is actually low levels of emissions from materials such as PVC plastics and certain metals. The levels are so low that they do not present a danger but when the vehicle becomes warm, concentrations may occur that irritate people hypersensitive allergies. Often, these substances are quickly vented out of the cabin but Volvo Cars' objective is to avoid these odours completely.

"We are trying to minimize all odours since strong smells can trigger asthma," says Andreas Andersson, who is in charge of clean cabins at VCC.

Systems that purify

Work with the interior environment can be divided into two main areas: air quality and contact allergies. To ensure that the air entering the cabin is as clean as possible, Volvo Cars has developed the Interior Air Quality System (IAQS). IAQS monitors the quality of the incoming air and automatically closes the air vents if the levels of harmful substances become too high. A multi-filter removes particulates and pollen but also uses a layer of active charcoal to remove odours and ground-level ozone.

"The system thinks for you and closes the air vents, for example, when driving through a tunnel," says Andersson.

Inhaled air is assessed

In order to avoid emissions from materials in the cabin, a careful selection of materials is made at an early stage in vehicle development. Further, tests are conducted in which interior components are heated in ovens to measure the effect on air quality.

"We have chosen to measure what is in the air, what people inhale," says Andersson.

Volvo Cars conducts tests in three formats: on individual components, on systems and on entire vehicles. Sun simulations are conducted in which the vehicle is heated to 65 degrees Celsius for several hours to simulate a hot summer day.

These tests are supplemented by VCC's "nose team," whose members smell different objects to determine if their odour is acceptable or too strong.

Nickel and chrome

In the work to counteract contact allergies, the amount of nickel released from metallic surfaces is minimised and a natural plant extract is used instead of chrome for tanning leather. All textiles and leather in Volvo vehicles meet the requirements in the Oeko-Tex Standard 100, an international institute that monitors harmful substances in textiles.

Growing interest

Interest in a clean in-cabin environment is growing. Andersson says that several of the Asian markets have taken this issue to a new level. "Japan, China and Korea have indicated that they would like to set new legal requirements. We haven't seen this on any market previously, but customer interest in the interior environment is growing in both Europe and the United States."

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Keywords:

S80 (2007), XC70 (2007), Press Releases, 2009, Product News

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