

# Acoustic windshield blocks road noise for quieter ride

BY ROBERT MUSIAL  
FORD World

A new acoustic windshield is helping reduce wind and road noise in Ford vehicles, providing a more enjoyable driving experience.

Developed by Carlite, the SoundScreen windshield debuted on the 2007 Ford Expedition and the Lincoln MKX and Navigator, and is also standard on the new 2008 Ford Escape and Focus, as well as the new 2008 Mercury Mariner. It is a key component in Ford's strategy to make vehicle interiors quieter, which helps improve customer perceptions of vehicle quality.

The new windshield and the addition of sound-absorbent material around the interior of the 2008 Focus helped it test quieter than its competition – the Toyota Corolla, the Honda Civic and the Chevrolet Cobalt. During an actual road test measuring “boom, rumble and roar” inside the new Focus, the decibel levels were cut to 67 dB from 70 dB in the previous model. By comparison, 65 dB is the level that people typically speak at when seated around a conference table.

“Now, drivers can easily talk to the passenger next to them or on the phone. They also won't have to turn up the stereo all the way to drown out the road noise,” said David Snyder, Ford product supervisor, NVH (Noise, Vibration and Harshness), on the 2008 Focus.

With the new windshield and other sound-absorbing materials, the 2008 Mercury Mariner is 12 percent quieter on the highway and 20 percent quieter in high-velocity cross winds than the 2007 model.

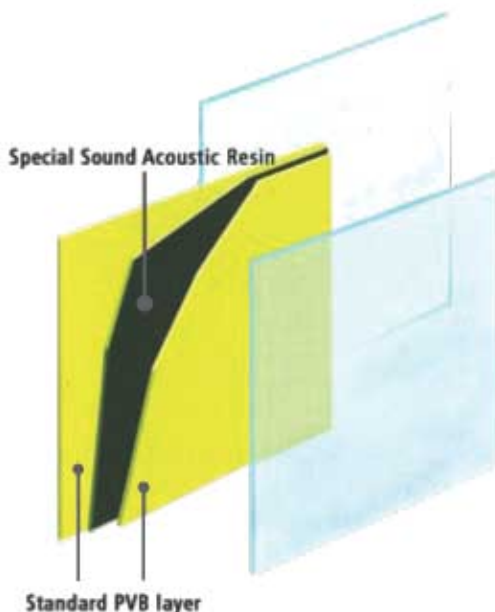
The secret to the SoundScreen windshield is that it is built with a layer of sound-absorbent vinyl sandwiched between two sheets of glass.

This special acoustic vinyl layer helps soften noise levels inside the vehicle by as much as 6 dB in the frequency range where wind noise is most annoying and by 2 to 3 dB overall. And the special polyvinyl butyral



Lincoln MKS with acoustic windshield

(PVB) layer also helps cut the vibration noise stemming from the vehicle's engine compartment.



“There is also the potential for weight savings from the use of an acoustic windshield,” said Rod Watson, technical services manager, Carlite.

“For example, as a result of using the new tri-layer acoustic vinyl, the weight of a Navigator windshield could be trimmed by about seven pounds by using thinner glass,” Watson said. “This reduction in glass thickness could be made without significantly reducing the improvement in acoustic performance.”

Ford engineers are performing sound tests to confirm that there are no unintended consequences to a reduction in glass thickness.

The acoustic glass can also be used for side and back windows and moonroofs, adding to more weight savings.

*Carlite is a business unit of Automotive Components Holdings, established by Ford in 2005 to ensure the flow of quality components and systems to the automaker.*

## Current vehicles with acoustic windshields:

- Ford Escape (2008)
- Ford Expedition (2007, 2008)
- Ford Focus (2008)
- Lincoln MKX (2007, 2008)
- Lincoln Navigator (2007, 2008)
- Mercury Mariner (2008)

## Upcoming vehicles slated for acoustic windshields:

- Ford Flex (2009)
- Ford F-150 Platinum Edition (2009)
- Lincoln MKS (2009)



*More Ford, Lincoln and Mercury vehicles are to get the windshield in 2010.*