

AutoGlass™

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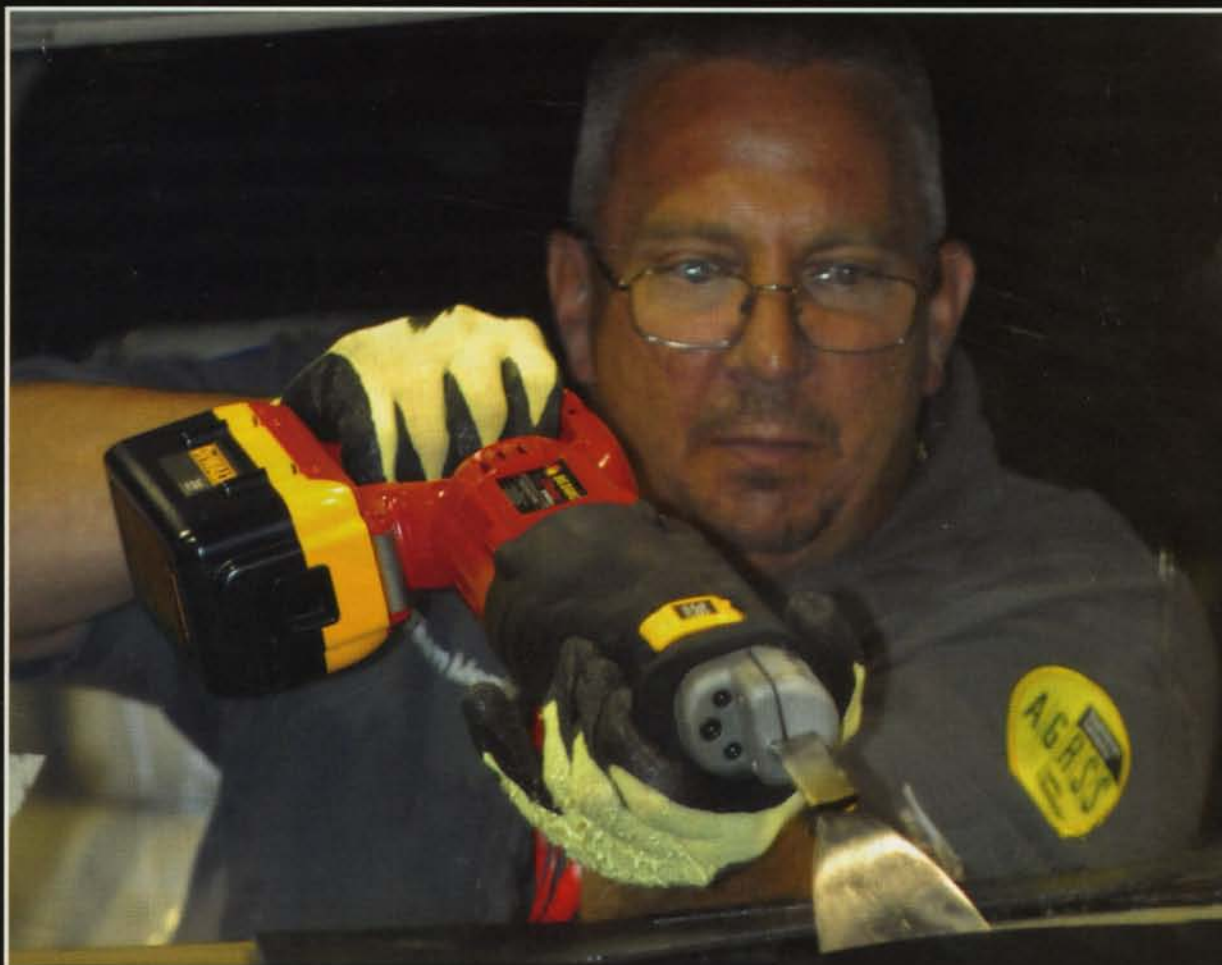


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Acoustic windshields: The quiet revolution

Need-to-know info for installers

The NAGS parts catalog now has the descriptor "acoustic interlayer" behind some of the newer windshields. What does this term mean and why is it important to you as an installer?

The technology

Today's automotive engineers are on an unending quest to make vehicle interiors quieter and more comfortable. In the auto industry, this translates to reductions in noise, vibration and harshness, or NVH.

Tests show noise is transmitted through the vehicle's glazing and comes from several sources:

- Air-pressure fluctuations against the windshield at highway speeds
- Air impinging on the edges of the vehicle's body panels
- Other vehicles and environmental noise
- Road noise and vibration; this is also transmitted through the body structure.

One way to reduce noise is to increase the thickness of the glass. This provides marginal noise reduction and adds weight to the vehicle.

More recently, PVB suppliers have developed vinyls with improved acoustic-damping qualities. These new interlayers are particularly efficient in the 1,500 Hz to 5,000 Hz frequency range.

To identify acoustic windshields, some manufacturers use the word "acoustic" or an "A" in the windshield trademark.

The decibel reduction typically is 2-3 dB overall. Although not large, it results in a quieter vehicle interior that allows people to converse without shouting.

Acoustic vinyl also enables vehicle designers to decrease the thickness of the windshield without negatively affecting noise levels. This is particularly important as automotive engineers try to shave weight off vehicles to make them more fuel efficient. Acoustic vinyl windshields meet all of the same federal safety specs as regular vinyl.

► By Rod Watson

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The application

Acoustic vinyl is also suitable for use in sidelites to further improve interior noise levels. Other benefits include:

- Security or theft deterrence. It takes longer to break through a laminated glass window, therefore reducing "smash and grab" theft.
- Improved health. Laminated glass allows for lower ultraviolet light transmittance, especially beneficial to those with melanoma.
- Interior protection. Lower UV transmittance helps preserve vehicle interiors and slow color fading.
- Vehicle weight reduction. The vinyl interlayer's lower density allows vehicle designers to maintain the same overall window thickness while reducing the weight of the window compared to monolithic tempered glass.

The main downside to the use of acoustic vinyl is its cost. However, the difference in cost between acoustic vinyl and regular PVB will likely diminish as volumes increase. There are 18 vehicle makes and 40-plus models sold in the United States with acoustic windshields. The types of vehicles sporting acoustic windshields stretch across all sizes and price ranges; their use is not limited to luxury vehicles. In fact, the 2008 Ford Focus compact car will have an acoustic windshield as standard equipment. These windshields also are available standard on Ford Escape, Mariner, Expedition, Navigator and Lincoln MKX vehicles.

The installer's point of view

To identify acoustic windshields, some manufacturers use the word "acoustic" or an "A" in the windshield trademark; others use a specific product name or no designation at all. Ford recently introduced the "SoundScreen" brand for its acoustic windshields. The name will begin appearing in the windshield trademark.

From the installer's point of view, it is important to respect the integrity of the vehicle's original design. Acoustic windshields are part of an overall sound-control strategy. To preserve the original product intent, it is important the vehicle owner receive an acoustic windshield replacement consistent with the original application. Because not all OE windshield manufacturers use special marks to identify windshields with acoustic vinyl, and it may be difficult to know for sure if an aftermarket windshield manufacturer has used acoustic vinyl, I recommend using the OE manufacturer's part for replacement. Look for the word "acoustic" in the NAGS catalog when checking for the correct replacement part, and if indicated, replace with an acoustic part. **AG**

