

NOMINEE



Shiloh Industries, Inc. ShilohCore Acoustic Panel Laminate

ShilohCore Acoustic Panel Laminate (APL) Front of Dash Panel.



- Between 1 and 2kg (2.2 and 4.4 lbs) for a dash panel application, depending on the alternative damping treatments that are being replaced.
- Highly efficient constrained layer damping provides maximum damping performance for minimum weight by engineering the constraining layer to only the areas of NVH concern. The constraining laminated steel layer can be extended to the edge of holes and weld studs plus other attachments can be applied directly on top of the laminate without degrading performance.
- The key to developing a premium part is accurately simulating the laminated blank to predict formability using CAE. Due to Shiloh's extensive experience in stamping and die development, we have developed accurate models of the blanks, the adhesive in-between, the patch's constraining joints and the geometry of the holes in the blanks. This allows us to run simulations and analyze the data, including the effect of changes in the design of the part and any modifications to the forming process required for consistent formability.
- Stamping the ShilohCore patch with the main panel eliminates many additional operations and ensures a quality part with consistent performance, but there are several challenges in making this work. Controlling the metal flow during the stamping operation; it is essential that the stresses on the adhesive are controlled. Highly accurate formability simulations are necessary to guarantee the consistent and precise location of the patch on the finished stamping.



Presented in collaboration with:

