

A complete solution for Squeak and Rattle Analysis

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Comfort in a vehicle is achieved, among others, through a quiet and durable interior. One of the main aspects for achieving this, is the elimination of Squeak and Rattle noises. The corresponding tests in laboratories are numerous in order to produce interior and exterior parts that eliminate these undesirable phenomena. As a result the need for developing numerical models that explain and predict the behavior of a vehicle in Squeak and Rattle is inevitable.

A simulation method that is used for the Squeak and Rattle numerical analysis is the E-LINE method. This method focuses on calculating and evaluating the relative displacement between two components in time domain. In ANSA there is a special tool that sets up the model for a S&R analysis according to E-LINE method. This setting up concludes to a file that is able to run not only in 3rd party solvers like NASTRAN and LS-DYNA but also in EPILYSIS the BETA solver. At last but not at least META comes with a special tool that makes the evaluation of S&R results really easy. Taking into account the above BETA products format a complete solution in dealing with the demanding S&R numerical simulations.