The effects of corrugated and porous cores on sound transmission through sandwich cylindrical shells

In the present paper, sound transmission through sandwich cylindrical shells with circumferentially corrugated cores filled with porous materials is investigated. The inner and outer layers are made up of isotropic materials, and an external mean flow is traveling outside the structure. The porous medium is described using the extended full method. Besides, the corrugated core is modeled as a series of uniformly distributed translational and rotational springs. The acoustic effects of various parameters, such as porosity, thickness, and Mach number, are studied.

Sound wave propagation; Sandwich cylinders; Corrugated shells; Porous materials

https://civilica.com/doc/1264719