



## Multi-objective Optimization of the Ceiling-to-Floor System in a Wooden Building

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### Summary:

The volume occupied by all components between the ceiling of a floor and the floor of the upper floor (slab, ventilation duct, plumbing, etc.) is of great importance and it is best to minimize its thickness. This project aims to develop a multi-objective optimization strategy to design this sandwich type assembly according to various structural, acoustic, thermal and mass transfer criteria (Alev and Kalamees, 2017), while minimizing its volume, its size and its cost. and this, according to a given context. A case study will be conducted to assess the degree of optimality of the solutions chosen. Multidisciplinary tools facilitating the optimal design of this system will be proposed.