

**A. Problem Statement/Title:**

Enhancing Impact Noise Insulation for Flats

**B. Background of the Problem:**

Based on the feedback received by HDB, the top noise nuisances include dragging of furniture/ dropping of items (e.g. marbles, balls), and footsteps from running children. These are classified as impact noise which are structural borne. Such noise can affect the quality of living, especially in a highly-dense environment.

Current solutions to mitigate impact noise include the installation of a floor dampener to the source unit. The dampener is installed beneath the floor screed, which requires removal of existing floor finishes. Furthermore, the condition of the floor finishing changes over the year and may affect the dampener and its noise damping properties.

Therefore, there is a need for a durable solution that is easy to install and effective in attenuating inter-floor impact noise.

**C. Technical Requirements / Performance Criteria:**

The proposed solution should meet the following criteria:

- a) Reduce inter-floor transmission noise by up to 10dB from existing conditions.
- b) Feasible for both new and existing HDB developments.
- c) Preferably deployed at affected units.
- d) Does not require major alteration works, e.g. floor hacking.
- e) Uses recycled material partially or wholly, and/or recyclable at the end of life to reduce its impact to the environment.
- f) Tested in a proof-of-concept setting with minimal development needed to be ready for deployment within (time frame).