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Building Design with Soundproofing Attributes

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Abstract: *This research primarily focuses on creating the blueprint for a three-story soundproof building, specifically the Reading Hub planned for the Surigao City Tourism Office. The envisioned structure spans approximately 130 sq. m and caters to the desired interior design of the industry partner. The soundproofing component employs polyurethane, a proven and effective material in various architectural applications. The study adopts a descriptive research approach and furnishes details regarding Structural and Aesthetical Requirements, Reverberation Time, Design Criteria, and Cost Estimates. The outcomes of this design endeavor affirm its structural adequacy, aligning with the stipulations of NSCP 2015 and ACI 318. Reverberation time calculations have yielded results well within the acceptable range for an average control room volume. The estimated costs suggest that constructing a three-story building is justifiable.In summation, the design of the three-story soundproof building utilizing foam bricks and adhesive wallpaper stands as an efficacious venture. This affirmation is rooted in its meticulous evaluation and endorsement by both the industry partner and professional Engineers.*

Keywords: soundproofing, building, attributes, foam system

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