

ABSTRACT

ACOUSTIC ASSESSMENT THROUGH REVERBERATION TIME ANALYSIS IN BUILDING B OF PEMBANGUNAN JAYA UNIVERSITY AUDITORIUM

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Architectural acoustics is a branch of building science that examines sound quality within a building. Each type of space in a building has its own characteristics so it can create characteristics in harmony with the intended function. This thesis aims to identify the acoustic characteristics of an architectural space with a conversational function through which it can be examined based on reverberation time and Articulation loss of consonant (%ALcons) in auditorium of building B, Universitas Pembangunan Jaya as the case study. The research start with a survey to examine the data of impulse response within existing built condition of the auditorium to analyze whether destructive reflection exist in the current condition. The research is brought into software to be examined through Ecotec software to examine the reverberation time that occurs in existing conditions to calculate %ALcons as a benchmark for speech intelligibility. The final step in this research is to improve the design for the acoustic. The impulse response data indicate that destructive reflection that occur in more than 80ms exist in the current condition. Furthermore, the required RT60 is 1.39 seconds which is to long for this room purpose and the %ALcons is 9.27% which means it is quite good. Furthermore, design improvisation can also improve the acoustic quality of this space.

Keywords: *Architectural Acoustic, Reverberation Time, Articulation Loss Consonant*

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