

CALCULATION OF QUANTITY TAKE OFF USING BIM REVIT IN THE CONSTRUCTION OF THE INTEGRATED LIBRARY OF STAIN BENGKALIS

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ABSTRACT

The construction of the Integrated Library Building at STAIN Bengkalis requires precise and efficient planning, particularly in calculating the volume of structural works to support cost and time control. Conventional methods of calculating Quantity Take Off (QTO) often take longer and are prone to errors. This research uses a quantitative approach with data collection techniques based on construction drawings and technical specifications of the library building. The process begins with creating a 3D model of the building in Autodesk Revit, followed by an analysis to obtain the volume of structural works. The purpose of this study is to determine the volume of structural works for the integrated library building, implement BIM Revit in building modeling, and compare the QTO results with the manual method. The findings show that the application of BIM Revit can produce fast, accurate, and design-integrated volume calculations, thereby minimizing the risk of errors and improving the efficiency of construction project management.

Keywords: Autodesk Revit, Building Information Modeling, Quantity Take Off, Integrated Library, Structural Works.