

**REANALYSIS OF THE UPPER STRUCTURE OF THE  
MULTIPURPOSE BUILDING OF POLYTECHNIC STATE  
BENGKALIS  
(BEAM AND PLATE REVIEW)**

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**ABSTRACT**

*In the Multipurpose Building of the Bengkalis State Polytechnic, visual observations in the field obtained several problems in the upper structure of the building, especially in beams and plates. So it is necessary to re-analyze the upper structure of the Bengkalis State Polytechnic Multipurpose Building (Beam and Plate Review) using SNI 1726: 2019, SNI 2847: 2019, and SNI 1727: 2020. The model is analyzed using ETABS v.16 software and for reinforcement planning on beams and plates is analyzed using a Special Moment Bearing Frame System (SRPMK). Based on the analysis, it is found that beam types 1,2,3 and 4 meet the requirements, starting from the dimensions to the reinforcement details. While beams 5,6, and 7 do not meet the requirements so that the dimensions and reinforcement details are recalculated. The dimensions of beam 5 (B5) are 25 x 40 cm with 2D19 reinforcement in the support area and 2D10-80 mm stirrups, for the field area using 2D19 reinforcement with 2D10-100 mm stirrups. Beam 6 (B6) is 25 x 40 cm with reinforcement in the support area 2D19 and stirrups 2D10-80 mm, for the field area using 2D19 reinforcement with stirrups 2D10-100 mm. While Beam 7 (B7) is 20 x 40 cm with reinforcement in the 2D19 pedestal area and 2D10-80 mm stirrups, for the field area using 2D19 reinforcement with 2D10-100 mm stirrups. then for the 120 mm thick floor plate using D13-100 reinforcement for the pedestal and D13-150 for the field.*

*Keywords: Analysis, Upper Structure, Reinforcement, ETABS v.16.*