STRUCTURE PLANNING OF MUHAMMADDIYAH UNIVERSITY FLAT BUILDING SIDOARJO BY USING INTERMEDIATE MOMENT RESISTANT FRAME SYSTEM

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Abstract

Muhammaddiyah University Flat Building Sidoarjo consists of four level with length 66,4 m, wide 13,5 m and high 15,92 m. The building is planned to include in the quake zone 3 by using intermediate moment resistant frame system (SRPMM). Regulations used is applicable design standards in Indonesia, SNI 03-1728-2002, SNI 03-2847-2002, SNI 03-1726-2002, PPIUG 1983 and PBI 1971. On the roof using steel frame structure (rigid frame) with a gable roof models. The primary structure building (beams, columns and sloof) and secondary structure (plate and ladder) using reinforced concrete structures. Bottom structure using pile foundation. The results obtained in the form of structural design stair dimensions, dimensional plate structures, beams, columns and reinforcement Thick of stairs and water reservoir plate 150 mm, thick of floor plate and thick of bathroom floor plate 120 mm using the main reinforcement D10. Beam dimensions 300/400 with torsion reinforcement Ø10, flexural reinforcement D19 and shear reinforcement Ø8. Joist dimensions 200/300 with flexural reinforcement D19 and shear reinforcement Ø8. Column dimensions 400/400 with flexural reinforcement D19

and shear reinforcement Ø8. For foundation, pile cap using main reinforcement D19.

Keywords : SRPMM, reinforced concrete, quake zone