

ABSTRACT

Title: Analysis of Hospital Building Performance with Dual System Methods Using SNI 1726-2012 (Case : Royal Dental Hospital Serpong – Banten), Compiled by: Utia Rachmadiani, Nim: 41116320005, Supervisor: Resi Aseanto, S.T., M.T., 2018.

Planning and construction of high-rise buildings in Indonesia with reinforced concrete continues to increase rapidly. As population increases, health problems become serious problems. Dental and oral health services have only been part of a hospital's health services. However, Indonesia currently has a hospital that specializes in dental and oral care, namely the Royal Dental Hospital located in Serpong-Banten.

RDH building consists of 16 floors with 3 basements and a roof in the form of concrete. The structural system used is Special Moment Reinforced Concrete Frame System and Special Shear wall, which can generally be categorized as a Double System. This final project will re-analyzed whether the structure performance of RDH building is still within safe limits. The structure performance in question is in the form of structural deviation.

The method of data collection was done by studying literature and project data during the tender. Calculations are carried out using the formula of SNI and books related to the final project and analysis assisted with 3D models made on computer program (ETABS). The structure loading method was used by the PPIUG 1983 loading regulation and SNI 1727-2013 by taking the maximum load value from the discharge regulation. In addition, the loading is taken from brochures related to the loading of the RDH building structure.

The results of analysis was found that the RDH building is a building with categories of horizontal irregularities type 1a and type 1b and vertical irregularities type 2. This means that according to Table 13 SNI 1726-2012 that for the category of seismic design D and the characteristics of all other systems the equivalent lateral force analysis is not allowed. For this reason, only dynamic force analysis is used to calculate structural performance. The result is that the RDH building is still within safe limits which is below $0.01 h_{mx}$ which is equivalent to 38.5 mm for the X direction deviation and Y direction deviation.

Keyword: Hospital Planning. Performance Structure based on SNI 1726-2012. Double System Method Structure Planning ·