

INTISARI

Pemberlakuan standar baru tentang Tata Cara Perencanaan Ketahanan Gempa Untuk Struktur Bangunan Gedung dan Non Gedung SNI 1726:2012 dan Persyaratan Beton Struktural Untuk Bangunan Gedung SNI 2847:2013 secara resmi menggantikan standar sebelumnya. Penelitian ini bertujuan untuk mengevaluasi kekuatan struktur gedung Harkati Subagyo FKG UGM. Gedung Harkati Subagyo dibangun pada tahun 1980. Renovasi pada ruang kuliah dilakukan pada tahun 2016. Renovasi ruang kuliah menambah beban mati pada struktur.

Penelitian ini meninjau 2 jenis balok dan 2 jenis kolom. Data mengenai struktur didapatkan dari survei lapangan dan *As Built Drawing*, kuat leleh baja diasumsikan bernilai 240 MPa. Mutu beton didapatkan melalui pengujian *Hammer* dan *Core Drill*. Pembebanan ditentukan berdasarkan pada SNI 1727:1989 dan SNI 1726:2012. Analisis struktur dilakukan dengan *software* SAP2000 v.16 untuk mengetahui gaya-gaya dalam pada elemen struktur dan *software* Microsoft Excel untuk menghitung kapasitas penampang elemen struktur secara manual.

Hasil penelitian menunjukkan bahwa mutu beton yang ada bernilai 30 MPa. Hasil analisis struktur menunjukkan bahwa seluruh balok dan kolom aman terhadap beban momen, beban geser, dan beban torsi.

Kata kunci : Gedung Kuliah, Evaluasi Struktur, SNI 1726:2012, SNI 2847:2013, *hammer test, core drill*

ABSTRACT

The enforcement of new standard about Planning Procedures of Earthquake Resistance for Building Structure and Non-Building Structure SNI 1726:2012 and Requirements for Structural Concrete Building SNI 2847:2013 officially replaces the previously applicable standards. This study is conducted to evaluate the strength capacity of Harkati Subagyo building, which is located in fakulty of dentistry Gadjah Mada University. The building was built in 1980. Harkati Subagyo was renovated in 2016. The renovation on the building increases dead load of the structure.

Structural components that are reviewed include 2 types of beam dan 2 types of column. The structural data of the building are obtained from field survey and As Built Drawing of the building, the yield strength of the steel is assumed to be 240 MPa. The compressive strength of the concrete is obtained from rebound hammer test on the column and core drill. Loading was determined bases on SNI 03-1727-1989 and SNI 1726;2012. In this research, the structural analysis conducted using SAP2000 v.16 program to determine internal forces in structural element and Microsoft Excel program to calculate capacity of structural elements sections manually.

The evaluation result showed that the compressive strength of the concrete is 30 Mpa. The results also showed that all types of the beams and columns do qualify of the moment forces, shear forces, dan torsional forces.

Key words : College Building, Structure Evaluation, SNI 1726:2012, SNI 2847:2013, , *hammer test, core drill*