

**PERENCANAAN STRUKTUR BANGUNAN GOR ITB CIREBON STUDI
KASUS PENGECEKAN STRUKTUR BALOK SRPMM TERHADAP
BEBAN TORSI**

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ABSTRAK

Dalam penelitian Tugas Akhir ini akan dilakukan analisis Perencanaan struktur bangunan serta Pengecekan Struktur Balok terhadap beban torsi pada Gedung Gelanggang Olahraga (GOR) ITB berlokasi di Cirebon. Analisis dan perencanaan mengacu pada SNI 1726:2019, SNI 2847:2019 serta SNI 2020. Analisis pemodelan dan pengecekan balok torsi menggunakan program SAP2000 serta analisis perhitungan secara manual.

Torsi hampir serupa dengan desain untuk lentur maupun geser ketika beban momen torsi terfaktor yang diberikan pada sebuah penampang melampaui tahanan torsi yang dapat diberikan oleh penampang beton sendiri. Hasil analisis dan perhitungan struktur balok menggunakan program SAP2000 diperoleh hasil: Dengan berbeda – beda hasil dari perhitungan penulangan dan analisis menggunakan software SAP2000 pada struktur balok, serta dilakukannya pengecekan balok terhadap torsi diambil nilai dengan Gaya torsi terbesar 91.3673 KN balok B1A Frame 477 dengan elevasi 4.8 m. Balok B1A (600 x 450, Kuning): Tulangan atas dengan tumpuan 5D22, lapangan 3D22, Tumpuan 3D22 ; Tulangan bawah dengan tumpuan 4D22, Lapangan 4D22, Tumpuan 4D22; Tulangan badan dengan tumpuan 4D16, Lapangan 4D16, Tumpuan 4D16 ; menggunakan sengkang 3 kaki dengan tumpuan D13-100, Lapangan D13-150, Tumpuan 13-100

Kata Kunci : Struktur Balok, Tulangan Balok, Gaya Torsi (T).

**STRUCTURAL PLANNING OF THE ITB CIREBON GOR GOR
BUILDING CASE STUDY OF SRPMM BEAM STRUCTURE CHECKING
AGAINST TORSION LOADS**

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ABSTRACT

In this Final Project research, an analysis will be carried out on the planning of building structures and checking of beam structures against torsion loads at the ITB Sports Arena Building (GOR) located in Cirebon. Analysis and planning refers to SNI 1726:2019, SNI 2847:2019 and SNI 2020. Modeling analysis and checking of torsion beams use the SAP2000 program and manual calculation analysis.

The torque is nearly identical to the design for bending or shear when the factored torsional moment load applied to a section exceeds the torsional resistance that the concrete section itself can provide. The results of the analysis and calculation of the beam structure using the SAP2000 program obtained the following results: from the calculation of reinforcement and analysis using the SAP2000 software on the beam structure, as well as checking the beam for torsion the value was taken with the greatest torque force of 91.3673 KN beam B1A Frame 477 with an elevation of 4.8 m. Beam B1A (600 x 450, Yellow): Top reinforcement with support 5D22, pitch 3D22, support 3D22 ; Supported bottom reinforcement 4D22, Course 4D22, Support 4D22; body reinforcement with supports 4D16, pitch 4d16, supports 4d16 ; using stirrups 3 feet with pedestal D13-100, Pitch D13-150, Pedestal 13-100

Keyword : Beam Structure, Beam Reinforcement, Torsion Force (T).