DESIGN OF STEEL STRUCTURE OF COAL DOCK
WITH CAPACITY 10000 DWT
KEC. MEULABOH, KAB. ACEH WEST-D.I. ACEH

Mahasiswa : 1. ABDURROHMAN

NRP : 1. 3112 040 521

Department : Diploma 4 Teknik Sipil FTSP-ITS

Adviser Lectures : 1. Ir. Chomaedhi CES, Geo
2. Ir. Ibnu Pudji R, MS

Abstract

This dock is located in the province of Meulaboh district DI Aceh. Development of pier is intended as a mode of transport from land to sea transportasi. This dock also aims to facilitate the unloading of coal produced from the mining project planned Meulaboh. maka dock with a capacity of 10,000 DWT.

Province D.I. Aceh is one of the new rock mining very large number of volumes and estimated to be about 500 million tonnes. Head of Mining Energy, Trade, and Cooperatives (Distambendagkop) West Aceh district, concluded there are about 500 million tons of coal deposits in the region. As for now, there have been granted permits mining companies production, namely PT. MifaBersaudara. In the end of the pier project is planned to include the dimensions of planning, control, planning connections on steel beams, structural design berthing and mooring (fenders and boulder) and the foundation. Top of the pier structure (grating plate, beam) using the material characteristics of
steel with BJ - 37. While under the pier structure using steel piles. The position of the pile installation is planned in such a way to be able to withstand vertical and horizontal styles. In planning the pier structure, the structure of the system is analyzed by using the program SAP 2000 with a three-dimensional model.

From the results obtained planning pier dimensions 150 x 20 m² which is divided into 3 segments trestel dock and dimensions of 12 x 50 m² on each segment, mooring dolphin dimension 4 x 4 m², and berthing dolphin 4 x 4 m². Transverse and longitudinal dimensions of the beam using steel beams with various dimensions, while the pile diameter 609.6 mm with a thickness of 16 mm and 812.8 mm with a thickness of 16 mm. In the docked structure used is cylindrical fender type 1600/800 on the berthing dolphin and mooring structures used can withstand loads of up to 300KN mooring.

Keywords: Pier, Dolphin, Response Spectrum