

## ABSTRACT

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**Analysis of Wall Thickness, MAWP, MAP As well as Gasket and Bolt Sizes on Flange Connections, Mud-Gas Separators in PT. GEARINDO PRAKARSA**

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(XII + 53 + Attachments)

*This study aims to analyze the design of the mud-gas separator, which is a gas separator from drilling fluids in the circulation system of a drilling installation. Analysis of the thickness of the solid structure encircling the area (wall), the maximum pressure on the gas-mud separator during operation (MAWP), the maximum pressure in the area considered weakest (MAP) and determining the size of the bolts and gaskets on the flange connection. Analysis is done by comparing the results of design data calculations with actual data. Data was taken at the time of practical work activities at PT. Gearindo Prakarsa. ASTM Div VIII concerning Boilers and Pressure Vessel Codes and also bolts and gaskets according to ANSI B16.5 about Basic Dimensions for Flange, Bolts and Gaskets. From the calculation results, the thickness of the wall design is 4.9 mm for the body and 4.8 mm for the head and when compared with the actual thickness, which is 16 mm, it can be concluded that the design of the mud-gas separator is safe, because the thickness of the design wall does not increase in thickness actual. And the MAWP is 1.4 MPa and MAP is 1.4 MPa which when compared to the working pressure of 1.4 MPa, the design mud-gas separator is not safe because the design pressure value is the same as the work pressure value. This time the gas-mud separator has 4" and 6" flange connections. For the 4" flange the appropriate bolt size is 15,875 mm in diameter with 8 pieces and gasket with an outer diameter of 157,1625 mm. Then for the flange 6" the appropriate bolt size is 19.05 mm in diameter by 8 pieces and an outer diameter gasket is 201,6125 mm.*

Bibliography (2000-2014)