

Design of Saddle Support for Horizontal Pressure Vessel

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Abstract : This paper presents the design analysis of saddle support of a horizontal pressure vessel. Since saddle have the vital role to support the pressure vessel and to maintain its stability, it should be designed in such a way that it can afford the vessel load and internal pressure of the vessel due to liquid contained in the vessel. A model of horizontal pressure vessel and saddle support is created in Ansys. Stresses are calculated using mathematical approach and Ansys software. The analysis reveals the zone of high localized stress at the junction part of the pressure vessel and saddle support due to operating conditions. The results obtained by both the methods are compared with allowable stress value for safe designing.

Keywords : ANSYS, pressure vessel, saddle, support

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